

# Bachelor of Science in **AEROSPACE SCIENCES**



**PROPOSAL APPLICATION**



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**BACCALAUREATE PROPOSAL APPLICATION**  
**Form No. BAAC-02**

Section 1007.33(5)(d), Florida Statutes, and Rule 6A-14.095, F.A.C., outline the requirements for a Florida College System baccalaureate program proposal. The completed Proposal form shall be submitted by the college president to the Chancellor of the Florida College System at [ChancellorFCS@fldoe.org](mailto:ChancellorFCS@fldoe.org). In addition, a printed version shall be mailed to the Division of Florida Colleges at 325 West Gaines Street, Suite 1544, Tallahassee, Florida 32399-0400.

The proposal requires completion of the following components:

- Program summary
- Program description
- Workforce demand and unmet need
- Planning process
- Enrollment projections and funding requirements
- Student costs: tuition and fees
- Program implementation timeline
- Facilities and equipment specific to program area
- Library and media specific to program area
- Academic content
- Program termination
- Appendix tables
- Supplemental materials

Florida College System Institution Name: Broward College  
 Florida College System Institution President: Mr. J. David Armstrong, Jr.

PROGRAM SUMMARY		
1.1	Program Name:	<u>Aerospace Sciences</u>
1.2	Degree type:	<input checked="" type="checkbox"/> Bachelor of Science <input type="checkbox"/> Bachelor of Applied Science
1.3	How will the program be delivered (check all that apply):	<input checked="" type="checkbox"/> Face-to-face <input checked="" type="checkbox"/> Hybrid <input type="checkbox"/> Online only
1.4	List the counties in the college's service district:	<u>Broward County</u>
1.5	Degree CIP code (6 digit):	<u>49.0101</u>
1.6	Anticipated program implementation date:	<u>January, 2017</u>
1.7	What is the primary associate degree pathway for admission to the program?	<u>AS Aviation Administration</u> <u>AS Professional Pilot Technology</u>

Incorporated in Rule 6A-14.095, Site Determined Baccalaureate Access Effective August, 2015



		Any student with an Associate Degree will be considered after admission committee review.
1.8	Is the degree a STEM focus area?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
1.9	List program concentration(s) (if applicable):	→ Professional Pilot → Aerospace Management
1.10	Will the program be designated such that an eligible student will be able to complete the program for a total cost of no more than \$10,000 in tuition and fees?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

**PROGRAM DESCRIPTION**

2.1 Describe the program.

The Bachelor of Science in Aerospace Sciences degree is designed specifically for those students with a desire to work in various aviation-related careers. The program introduces students who are new to aviation to a wide-ranging sampling of the various sectors, but also allows students with a more focused approach the opportunity to concentrate on a particular area of interest. This program would recruit students from existing Aviation related AS programs in South Florida, specifically Broward County. This program will: 1) meet the needs of local employers for a more highly educated workforce, 2) give graduates a significant salary advantage over those without a BS degree, 3) provide graduates with the opportunity to pursue graduate level work, often required for executive-level positions in the industry, and 4) allow for a reduction in required flight hours for those students who choose the Professional Pilot track.

Key Skills of Graduates:

Graduates of the program who pursue the *Professional Pilot* track will be able to:

1. Interpret and assess large aircraft systems;
2. Discuss relevant topics related to law and ethics in the aerospace industry;
3. Predict and solve human factors challenges in the cockpit;
4. Compile, interpret, and draw conclusions from safety data related to flight;
5. Describe high speed, high altitude aerodynamics; and
6. Assess propulsion systems of large, complex aircraft.

Graduates of the program who pursue the *Aerospace Management* track will be able to:

1. Compare varying methods of managing the airside and landside operations of a large airport;
2. Discuss various facets of airline operations;
3. Explain the environmental concerns related to airports and airline operations

4. Determine aviation security measures to implement in various scenarios;
  5. Evaluate and compare aviation maintenance tasks necessary for safe flight;  
and
  6. Explain methods for designing modern airports.
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### **WORKFORCE DEMAND AND UNMET NEED**

- 3.1 Describe the career path and potential employment opportunities for graduates of the program.

This program is intended to prepare graduates for a variety of supervisory, management, and leadership positions within the growing aviation industry at airlines, airports, aircraft maintenance, and repair and overhaul companies, etc. It is also designed to give current workers in the field advanced education to make them more competitive for promotion opportunities. It is anticipated that there will be two tracks: a track for the Professional Pilot student, and a track for Aerospace Management. Completion of the Professional Pilot track would qualify graduates for eligibility in a reduction of flight hour experience necessary to be hired by commercial airlines from 1,500 hours to 1,000 hours. The Federal Aviation Administration grants graduates from approved institutions a reduction in the flight hours required to become a professional pilot and to be hired by a commercial airline. Currently, pilots need 1,500 hours of experience to be hired by an airline. Graduates of Broward College's AS in Professional Pilot Technology are eligible for a reduction in flight hour experience down to 1,250 hours. This proposed Bachelor of Science program would make graduates eligible for hire with 1,000 hours of flight experience. The 250 hour reduction in flight hours from 1,250 to 1,000 can mean significant savings in the cost of training as well as significant increases in lifetime earnings by being hired by an airline earlier. Completion of the Aerospace Management track would make the graduate eligible for supervisory and management positions throughout the industry, which would generally be guided by their AS degree. For example, a graduate who earned their AS in Aviation Maintenance Technology and their BS in Aerospace Sciences would be well-positioned for a supervisory job in an airline maintenance organization. Nearly all major airlines prefer or require that pilots have a four-year degree. Graduates from this proposed degree would be more marketable for these high-skill, high-wage jobs. The Greater Fort Lauderdale Alliance (GFLA), the economic development agency for Broward County, has identified Aviation & Aerospace as a Target Business Sector. The goal of GFLA is to support local business and to attract new businesses to Broward County. Having a strong talent pool for employers is essential in meeting those two goals. Please see letter of support from GFLA in Document 13.

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3.2 Describe the workforce demand, supply and unmet need for graduates of the program that incorporates, at a minimum, the shaded information from appendix tables A.1.1 to A.1.3.

Analysis of State and County labor data, as well as consultation with local employers indicates that there is a demand for individuals with this degree, and no state college or state university in South Florida provides education at the Bachelor degree level in this field. Florida is currently the #2 state in aviation, aerospace, and space establishments. There are nearly 2,000 companies in Florida employing some 84,000 industry professionals. The Aviation & Aerospace industry has been identified by Enterprise Florida as one of five qualified targeted industries (see Documents 1 and 2), and Governor Rick Scott has led trade missions overseas touting the State's competitive advantage in the industry. Additionally, Florida is 1st for flight training businesses, 1st for activities which support air transportation, 2nd for parts manufacturing, 3rd for aircraft manufacturing, 4th in aviation and aerospace employment, and 5th in total air cargo volume.

In addition, there are several major airlines that either require a baccalaureate degree or consider it a competitive advantage in hiring, including United Airlines, Delta Airlines, Southwest Airlines, and JetBlue Airways. And projections for growth in this industry are tremendous. The US Department of Labor projects 21% growth between 2010 and 2020 for Commercial Pilots, and pay for airline pilots is high with median annual wages of \$103,210, with the top 10% earning in excess of \$166,400 annually (see Document 3)<sup>1</sup>. Forbes and many other publications have recently published articles on the pilot shortage brought on in part by changes to Federal regulations which now require all airline pilots to have a minimum of 1,500 flight hours before they can be hired (see Document 4)<sup>2</sup>, a tremendous increase over the 250 hours previously required. As noted above, graduates from the Broward College Bachelor of Science in Aerospace Sciences degree would be eligible for a reduction in required hours to 1,000.

In August 2015, aircraft maker Boeing increased their estimates for the number of pilots that will be required between 2015 and 2032 to 498,000. They also estimate 556,000 new aviation maintenance technicians will be needed worldwide between 2015 and 2032 (see Document 5)<sup>3</sup>. This program will specifically train students for the high-wage management and leadership positions in the aviation maintenance field. Students will still complete the technical training in the Associate's program and while in the bachelor's program will learn the skills necessary to understand the integration of aviation maintenance into the aviation industry at large. These graduates will be critical to employers who are looking to grow their businesses.

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Additionally, airports are growing, including Fort Lauderdale-Hollywood International Airport which is currently ranked 1st among Large Hub airports for growth in domestic seat availability, and which has seen a traffic increase of 38% in the last 10 years.

<sup>1</sup> Bureau of Labor Statistics, U.S. Department of Labor, Occupational Outlook Handbook, 2012-13 Edition, Airline and Commercial Pilots, on the Internet at <http://www.bls.gov/ooh/transportation-and-material-moving/airline-and-commercial-pilots.htm>

<sup>2</sup> Anderson, B. (2016, January 28). Pilot shortage threatens to slow U.S. airline growth. *Forbes*. Retrieved from <http://www.forbes.com/sites/oliverwyman/2016/01/28/pilot-shortage-threatens-to-slow-u-s-airline-growth/#5515e856bb6e>

<sup>3</sup> Boeing Forecasts Increased Global Demand for Airline Pilots. (2013). News Releases/Statements. Retrieved from <http://boeing.mediaroom.com/2013-08-29-Boeing-Forecasts-Increased-Global-Demand-for-Airline-Pilots>

The proposed Bachelor of Science in Aerospace Sciences degree addresses the complex needs of the present and future advanced aerospace system. This program offers graduates a degree that provides entry into the aerospace field and the skills and experience they need to stand out in a competitive market.

#### Florida and Broward County Job Market

According to the Florida Department of Economic Opportunity (FDEO), about 151 new jobs per year will be created in the Airline pilot occupation state-wide, at an annual median wage of \$142,784. In addition, 121 jobs are expected to be created each year in Transportation Management. As a result, the total forecasted demand across the respective aerospace employment cluster is 580 annual openings (see Documents 6 and 6a). Locally, FDEO data indicate 11.5 annual job openings in the area of Transportation Managers and 13.75 annual job openings in Commercial Pilot jobs. Some key jobs graduates from this program would be qualified for have been identified by FLDOE as High Skill, High Wage jobs in a targeted industry. Annual percentage growth is between .93% and 1.70% (see Document 7).

#### Current Institutional Outputs

Only six programs in Florida offer competing programs. And none of the institutions: Jacksonville University, Embry Riddle Aeronautical University, Florida Memorial University, Everglades University, Lynn University or Florida Institute of Technology are in our immediate regional service district.

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- 3.3 Describe any other evidence of workforce demand and unmet need for graduates as selected by the institution, which may include qualitative or quantitative data information, such as local economic development initiatives, emerging industries in the area or evidence of rapid growth, not reflected in the

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data presented in appendix tables A.1.1 to A.1.3. For proposed programs without a listed SOC linkage, provide a rationale for the identified SOC code(s).

The Greater Fort Lauderdale Alliance has identified Aviation & Aerospace as a targeted sector (see Document 8). The goal of the Alliance is to attract and retain aviation and aerospace companies to Broward County. A key component to this goal is having the talent pool necessary for employers. Consequently, a workforce trained in the aviation industry is vital to our local economy. Further, many key employers in our service region require a baccalaureate degree in aviation related disciplines including Spirit Airlines, Lufthansa, and GA Telesis (see Document 9a).

Further, there is an acute pilot shortage which has negatively impacted the industry. A number of smaller airlines are struggling to hire pilots, and have begun to reduce routes or flight frequencies due to the shortage of pilots. Many of the major airlines require pilot candidates to have a bachelor's degree. The proposed program will address this serious issue by providing a track specifically for those student pursuing a career as a pilot with a commercial airline (SOC Code 53-2012). An important purpose for this track is that it will make students eligible to be hired by airlines with 1,000 hours of flight experience, down from 1,250 required, if they only hold an approved associate's degree.

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- 3.4 If the education level for the occupation identified by the Florida Department of Economic Opportunity presented in appendix table A.1.1 is below a bachelor's degree, provide justification for the inclusion of that occupation in the analysis.

A review of websites of airlines, listing criteria for pilot candidates, shows that a majority of airlines require or prefer a pilot candidate to have a bachelor's degree. Additionally, there is strong evidence to suggest that candidates with bachelor's degrees seeking employment in other aviation jobs are at a competitive advantage. A review of local job postings indicate an abundance of aviation management jobs where a bachelor's degree in an aviation related discipline is either required or desirable (see Documents 9 and 9a).

## **PLANNING PROCESS**

- 4.1 Summarize the internal planning process.

In January 2012, internal discussions started on the possibility of offering this degree. The Florida Aerospace Consortium (FAC), a consortium of state colleges who offer aviation programming, began developing a broad template which could be used to inform the development of bachelor's programs at

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individual schools. It was this template which formed the basis of our initial conversations. In January 2013, under the direction of then-Campus President, Dr. S. Sean Madison, Dean Russell McCaffery began the research necessary to support the decision to move forward with a letter of intent (LOI). This research, done in collaboration with the Office of Career and Technical Education, looked at current job openings in the state, labor market forecasts using data from EMSI as well as industry sources, and data from Enterprise Florida, which has identified Aviation and Aerospace as a targeted industry. On March 21, 2013, Dean McCaffery met with then-Associate Vice President of Academic Affairs, Dr. Avis Proctor, to begin the initial steps necessary to form a LOI.

In April 2013, Dean McCaffery sent out a student survey to gauge student interest in the proposed degree (see Document 10). Interest was overwhelmingly positive and 73%, or 162 of 221 respondents indicated a great likelihood that they would consider pursuing a bachelor's degree from Broward College in an aviation-related discipline. Two-thirds, or 142 of 220 respondents indicated that the most important factor for them in their decision to pursue a bachelor's degree was that it was either available locally or that it was affordable.

On April 23, 2013, Dean McCaffery presented to the Broward College District Board of Trustees, seeking approval to submit a LOI to the Florida Department of Education. The board unanimously approved this request (see Document 11).

On May 2, 2013, Dean McCaffery again met with then-AVP Dr. Proctor to begin drafting the LOI, based upon research findings developed by Dean McCaffery. On May 14, 2013, Dean McCaffery began discussions with the Broward College Foundation to advise them of the board approval and to build interest in offering the degree so the Foundation could begin discussions with potential donors, who might be interested in supporting such a program with equipment or scholarships.

During the subsequent months following the board approval, the department and the Office of Academic Affairs drafted the letter and circulated it numerous times for review and comment. On October 2, 2013, the LOI was signed by Broward College President, Mr. J. David Armstrong, Jr. and sent to the Department of Education.

On November 1, 2013, the Department of Education responded requesting some clarifications to the LOI. Specifically, they requested that we elaborate on coordination with other institutions in our service district to identify other programs which exist or are being planned. We completed some additional due

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diligence in this area and resubmitted the LOI on March 21, 2014 (see Document 12).

Shortly thereafter, a moratorium was put into effect which temporarily halted the approval of bachelor's programs by the State Board of Education. The moratorium was to be in effect for one year.

In September 2014, a series of workshops were conducted with both internal and external stakeholders to fully identify the objectives of the program and to begin the process of developing course titles which could be used in the program. Course outlines were developed for each course in conjunction with faculty discipline experts, and submitted to the college's Curriculum Committee, which approved the courses on April 20, 2015, pending approval from the Department of Education and Southern Association of Colleges and Schools – Commission on Colleges (SACS-COC).

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#### 4.2 Summarize the external planning process.

In February 2013, we engaged our various advisory committees, which are made up of employers and other industry experts, to discuss our initial thoughts of offering a Bachelor of Science degree in Aerospace Sciences. General consensus was that this was a degree which is needed in the region in order to provide the talent pool necessary for employers to maintain and grow their businesses. We followed up with a request for letters of support, many of which were received (See Document 13).

On July 17, 2014, Dean McCaffery communicated with Mr. Anthony Abbate, Associate Provost for the Broward Campuses of Florida Atlantic University. Mr. Abbate indicated that FAU did not currently offer a similar degree to the one being proposed, and had no intent of offering such a degree in the future.

On February 6, 2014, Dean McCaffery and Dean Donna Henderson met with Drs. Amir Mirmiran and Cesar Levy from Florida International University to discuss a number of items, including Broward College's intent to proceed with development of a Bachelor of Science in Aerospace Sciences. The FIU staff indicated that they did not currently have a program similar to the one envisioned, and had no immediate plans to offer such a program.

On March 17, 2014, then-Campus President Dr. S. Sean Madison and Dean Russell McCaffery met with Nova Southeastern University's Dean for the Institute for the Study of Human Service, Health, and Justice, Dr. Kimberly Durham, who oversees NSU's aviation-related programming. We discussed our plans to develop this program. Dr. Durham indicated that it sounded similar to a degree they already offered, but voiced no objection to our proposal, and

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thought that partnership opportunities might exist for students to later pursue one of their master's degrees (see Document 14).

On September 29, 2014, we were notified of an objection from Everglades University, which is located outside of our workforce region, Broward County. This letter was received well outside the deadline to file such an objection (see Document 15).

The moratorium on the State Board of Education approving baccalaureate degrees, which was lifted in August 2015, put a halt on much of our external planning activities. Once the moratorium was lifted, we continued to meet with our advisory committees at meetings on February 16, 2016; March 17, 2016 and August 3, 2016. During August 2016, we reached out to additional industry partners for letters of support, which have now been added to Document 13.

4.3 List engagement activities; this list shall include APPRiSe, meetings, and other forms of communication among institutional leadership regarding evidence of need, demand, and economic impact.

	Date(s)	Institution	Description of activity
APPRiSe	N/A		LOI was submitted prior to APPRiSe implementation.
Public universities in college's service district	February 6, 2014	Florida International University (FIU)	Deans Russell McCaffery and Donna Henderson met with FIU staff who indicated no intention to offer a program similar to the one being proposed.
	July 17, 2014	Florida Atlantic University (FAU)	Email to FAU Associate Provost Anthony Abbate, who indicated that FAU had no plans to begin a program similar to the one we are proposing.
Regionally accredited institutions in the college's service district	March 17, 2014	Nova Southeastern University (NSU)	Broward College staff met with NSU Dean Dr. Kimberly Durham, who indicated that the program sounded similar to one they offer, but voiced no objection. Rather she suggested we find ways to



			partner for students to move into their Master's program.
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**ENROLLMENT PROJECTIONS AND FUNDING REQUIREMENTS**

5.1 Provide a brief explanation of the sources and amounts of revenue that will be used to start the program.

In coordination with our Campus President and Dean of Business Affairs, we have identified that current operational funds will be used to hire the faculty needed, as well as the equipment related to their hire.

5.2 Provide a narrative justifying the estimated and projected program enrollments, outcomes, revenues and expenditures as they appear in Appendix Table A.2.

We plan to begin the program with an initial cohort of 25 students. This will allow us to run a sequence of classes for the cohort. Each year we plan to begin a new cohort with modest growth over the next three years; 30 in Year 2, 35 in Year 3, and 40 in Year 4. We project these enrollments to generate credit hours of 500, 1100, 1800 and 2600 respectively. The initial cohort of 25 is a reasonable figure based on the number of graduates from our aviation-related AS degrees, which was 71 in 2016. The revenue figures in Appendix Table A.2 are based on current tuition rates. Any future tuition increases have not been considered. Expenses are minimal, and consist of faculty and equipment related to their hire (computer, phone, etc.). It is not anticipated that any extraordinary equipment will be required for this program. Additionally, current facilities at our South Campus are sufficient to house both classes as well as faculty offices.

These numbers are based, in part, on a student interest survey which was conducted. Interest was overwhelmingly positive and 73%, or 162 of 221 respondents indicated a great likelihood that they would consider pursuing a bachelor's degree from Broward College in an aviation-related discipline. Two-thirds, or 142 of 220 respondents indicated that the most important factor for them in their decision to pursue a bachelor's degree was that it was either available locally or that it was affordable (See document 10).

**STUDENT COSTS: TUITION AND FEES**

6.1 Anticipated cost for a baccalaureate degree (tuition and fees for lower and upper division credit hours) at the proposing FCS institution (tuition and fees x credit hours).

	Cost per credit hour			Number of credit hours		Total cost
Tuition & Fees for lower division:	\$115.90	X	Credit hours	60	=	\$6,954.00
Tuition & Fees for upper division:	\$128.89	X	Credit hours	60	=	\$7,733.40
Tuition & Fees (Total):	\$122.40 (avg)	X	Credit hours	120	=	\$14,687.40

6.2 Estimated cost for a baccalaureate degree (tuition and fees) at each state university in the college's service district.

Institution Name:

There are no Aviation Baccalaureate programs inside the college's service district (Region 22 – Broward County).

Tuition & Fees:	\$0.00	X	Credit hours	--	=	\$0.00
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Institution Name:

Tuition & Fees:	\$0.00	X	Credit hours	--	=	\$0.00
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6.3 Estimated cost for a baccalaureate degree (tuition and fees) at each nonpublic institution in the college's service district (if available)\*

Institution: Nova Southeastern University (NSU)

Tuition & Fees:	\$1,152.5	X	Credit hours	120	=	\$138,300.00
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Institution Name:

Tuition & Fees:	\$	X	Credit hours	--	=	\$-,---
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Institution Name:

Tuition & Fees:	\$	X	Credit hours	--	=	\$-,---
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Institution Name:

Tuition & Fees:	\$	X	Credit hours	--	=	\$-,---
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Note. \*If the institution does not provide the tuition cost per credit hour, please provide the cost information provided on the institution's website.

## PROGRAM IMPLEMENTATION TIMELINE

7.1	APPRISe notice:	N/A
7.2	Board of Trustees approval:	April, 2013
7.3	Notice of Intent:	N/A
7.4	Completed proposal submission:	August 2016
7.5	Targeted State Board of Education consideration:	October 26, 2016
7.6	Targeted SACSCOC approval (if applicable):	November 2016
7.7	Targeted initial teacher preparation program approval(if applicable):	N/A
7.8	Targeted date upper division courses are to begin:	January 2017

## FACILITIES AND EQUIPMENT SPECIFIC TO PROGRAM AREA

- 8.1 Describe the existing facilities and equipment that will be utilized for the program.

Broward College has dedicated classroom space to accommodate the needs of the proposed BS program. Technical components of this degree (flight & aviation maintenance) will be handled at the associate's degree level. The last 56- to 60-credit hours will concentrate on aviation management topics that do not require additional technical equipment to complete. In addition, the College has coordinated scheduling to avoid adverse effects on current programs. The majority of Broward College classrooms are equipped with computer teaching stations with internet access, audiovisual equipment and projector screens. College-wide, there are fully-staffed, discipline-specific labs in English, mathematics, reading, modern foreign language, English as a Second Language, and anatomy and physiology. In addition, open computer labs are available for student and staff use. Labs are equipped with tutorial software and materials that support academic coursework. Qualified, student/service-oriented, full and part-time faculty and staff are available to tutor and assist students in the labs and resource centers. The South Campus Business Department also provides an open lab for Business and Computer Science students and offers free tutoring services for Accounting, Computer Applications, Economics and Marketing.

- 8.2 Describe the new facilities and equipment that will be needed for the program (if applicable).

As a new full-time faculty member is hired, computer and office equipment will be needed for this program. Technical components of this degree (flight & aviation maintenance) will be handled at the associate level. The last 56- to 60-credit hours will concentrate on aviation management topics that do not require additional technical equipment to complete.

## LIBRARY AND MEDIA SPECIFIC TO PROGRAM AREA

- 9.1 Describe the existing library and media resources that will be utilized for the program.

All campus libraries employ academic librarians providing reference and research assistance to the College's students, faculty, and staff. There are 12 professional academic librarians and 91 county librarians. BC houses a collection of 645,109 paper volumes with 41,337 constituting reference books. Among electronic resources are 28,285 e-Books through NetLibrary. Of these, 61 periodicals and 21 million articles are related to aerospace.

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- 9.2 Describe the new library and media resources that will be needed for the program (if applicable).

No additional library/media resources will be needed for the program as the college already has the necessary resources.

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## ACADEMIC CONTENT

- 10.1 List the admission requirements for the program.

Admission requirements for the proposed Bachelor of Science in Aerospace Sciences program at Broward College are consistent with general admission policies and practices at Broward College. Admission to this program will require a minimum of an AAS, AS, or AA degree (or the equivalent) from a regionally-accredited school or college, and at least a 2.0 grade point average on a 4.0 point scale.

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- 10.2 What is the estimated percentage of upper division courses in the program that will be taught by faculty with a terminal degree?

25%

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- 10.3 What is the anticipated average student/teacher ratio for each of the first three years based on enrollment projections?

20:1

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- 10.4 What is the anticipated SACSCOC accreditation date, if applicable?

SACS approved Broward College to offer baccalaureate degrees in February 2008. A substantive change will be submitted upon approval of this program, anticipated for November, 2016.

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10.5 What is the anticipated Florida Department of Education initial teacher preparation approval date, if applicable?

N/A

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10.6 What specialized program accreditation will be sought, if applicable?

None, at this time.

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10.7 What is the anticipated specialized program accreditation date, if applicable?

N/A

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10.8 Are there similar programs listed in the Common Prerequisites Manual for the CIP code (and track, if any) proposed for this program?  Yes  No

Polk State College, Bachelor of Science degree in Aerospace Sciences

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10.9 List the established common prerequisites for this CIP code (and track, if any) as listed in the Common Prerequisites Manual proposed for this program:

ASC1010 – Aviation History  
ASC1210 – Aviation Weather

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10.10 Describe any proposed revisions to the established common prerequisites for this CIP (and track, if any).

No revisions to the common prerequisites will be requested.

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10.11 List all courses required once admitted to the baccalaureate program by term, in sequence. For degree programs with concentrations, list courses for each concentration area. Include credit hours per term, and total credits for the program:

Table 2. BS Aerospace Sciences Aerospace Management Track Curriculum for Students with the AS Aviation Administration

General Education Requirements		
Course	Name	Credits
ENC1102	Writing Composition II	3
GenEd	Social Science	3
GedEd	Mathematics	3

GenEd	Humanities	3	18
GenEd	Science	3	
GenEd	Science Lab	1	
HLP1081	Total Wellness	2	
<b>Core Requirements</b>			
Course*	Name	Credits	
ASC3210	Advanced Aviation Weather	3	15
AVM3120	Advanced Aviation Human Factors I	3	
ASC3321	Aviation Law II	3	
AVM3220	Aviation Safety and Security II	3	
ASC3000	Airline Operations I	3	
<b>Aerospace Management Track</b>			
Course*	Name	Credits	
AVM3100	Aviation Sales & Marketing	3	27
AVM4500	Quality Assurance in Aviation	3	
AVM4000	Aviation Finance	3	
AVM4600	Domestic Aviation Operations <i>–OR–</i>	3	
AVM4200	International Aviation Operations	3	
AVM3300	Customer Relations in Aviation	3	
AVM3200	Aviation Human Resource Management	3	
AVM4300	Aviation Planning	3	
AVM4400	Aviation Project Management	3	
AVM3700	Employee Relations in Aviation	3	

\* Course numbers subject to change

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<b>BS Aerospace Sciences Term-by-Term-Sequence</b>			
<b>Upper Division Term 1</b>			
Course*	Name	Credits	
ENC1102	Writing Composition II	3	15
GedEd	Mathematics (or elective)	3	
ASC3210	Advanced Aviation Weather	3	
AVM3210	Advanced Aviation Human Factors I	3	
ASC3321	Aviation Law II	3	
<b>Upper Division Term 2</b>			
Course*	Name	Credits	
GenEd	Social Science	3	15
GenEd	Humanities	3	
AVM3220	Aviation Safety and Security II	3	
ASC3000	Airline Operations I	3	
AVM3100	Aviation Sales & Marketing	3	

Upper Division Term 3		
Course*	Name	Credits
GenEd	Science	3
GenEd	Science Lab	1
HLP1081	Total Wellness	2
AVM4500	Quality Assurance in Aviation	3
AVM4000	Aviation Finance	3
AVM4600	Domestic Aviation Operations	3
15		
Upper Division Term 4		
Course*	Name	Credits
AVM3300	Customer Relations in Aviation	3
AVM3200	Aviation Human Resource Management	3
AVM4300	Aviation Planning	3
AVM4400	Aviation Project Management	3
AVM3700	Employee Relations in Aviation	3
15		
60		

\* Course numbers subject to change

Table 3. BS Aerospace Sciences Professional Pilot Track Curriculum for Students with the AS Professional Pilot Technology

General Education Requirements		
Course	Name	Credits
ENC1102	Writing Composition II	3
GenEd	Behavioral Science	3
GedEd	Mathematics	3
GenEd	Humanities	3
GenEd	Biological Science	3
GenEd	Biological Science Lab	1
HLP1081	Total Wellness	2
18		
Core Requirements		
Course*	Name	Credits
ASC3210	Advanced Aviation Weather	3
AVM3120	Advanced Aviation Human Factors I	3
ASC3321	Aviation Law II	3
AVM3220	Aviation Safety and Security II	3
ASC3000	Airline Operations I	3
15		
Professional Pilot Track		
Course*	Name	Credits
ASC4200	Advanced Flight Planning	3
ASC4400	Airline Operations II	3

AVM4120	Advanced Aviation Human Factors II	3	23
ASC4126	Transport Category Aircraft Operations I	5	
AVM4600	Domestic Aviation Operations	3	
AVM4200	International Aviation Operations	3	
ASC4551	Advanced/High Altitude Aerodynamics	3	

\* Course numbers subject to change

56

<b>BS Aerospace Sciences Term-by-Term Sequence</b>			
<b>Upper Division Term 1</b>			
Course*	Name	Credits	
ENC1102	Writing Composition II	3	
GedEd	Mathematics	3	
ASC3210	Advanced Aviation Weather	3	
ASC3321	Aviation Law II	3	
ASC3000	Airline Operations I	3	15
<b>Upper Division Term 2</b>			
Course*	Name	Credits	
GenEd	Behavioral Science	3	
GenEd	Humanities	3	
AVM3210	Advanced Aviation Human Factors I	3	
AVM3220	Aviation Safety and Security II	3	
ASC4400	Airline Operations II	3	15
<b>Upper Division Term 3</b>			
Course*	Name	Credits	
GenEd	Biological Science	3	
GenEd	Biological Science Lab	1	
ASC4200	Advanced Flight Planning	3	
AVM4120	Advanced Aviation Human Factors II	3	
AVM4600	Domestic Aviation Operations	3	13
<b>Upper Division Term 4</b>			
Course*	Name	Credits	
ASC4126	Transport Category Aircraft Operations I	5	
AVM4200	International Aviation Operations	3	
ASC4551	Advanced/High Altitude Aerodynamics	3	
HLP1081	Total Wellness	2	13

\* Course numbers subject to change

56



Table 4. BS Aerospace Sciences Aerospace Management Track Curriculum for Students with the Associate in Arts

Lower Division Electives		
Course	Name	Credits
ASC2320	Aviation Law & Regulations	3
AVM1440	Aviation Security	3
ASC2870	Aviation Safety	3
ASC1210	Aviation Weather	3
Elective	Aviation Elective**	3
ACG2001	Principles of Accounting I	3
18		
Core Requirements		
Course*	Name	Credits
ASC3210	Advanced Aviation Weather	3
AVM3120	Advanced Aviation Human Factors I	3
ASC3321	Aviation Law II	3
AVM3220	Aviation Safety and Security II	3
ASC3000	Airline Operations I	3
15		
Aerospace Management Track		
Course*	Name	Credits
AVM3100	Aviation Sales & Marketing	3
AVM4500	Quality Assurance in Aviation	3
AVM4000	Aviation Finance	3
AVM4600	Domestic Aviation Operations <b>-OR-</b>	3
AVM4200	International Aviation Operations	3
AVM3300	Customer Relations in Aviation	3
AVM3200	Aviation Human Resource Management	3
AVM4300	Aviation Planning	3
AVM4400	Aviation Project Management	3
AVM3700	Employee Relations in Aviation	3
27		

\* Course numbers subject to change 60

\*\* Choose from: AVM2301, AVM2410, AVM2501, AVM2450

BS Aerospace Sciences Term-by-Term Sequence		
Upper Division Term 1		
Course	Name	Credits
ASC2320	Aviation Law & Regulations	3
AVM1440	Aviation Security	3
ASC2870	Aviation Safety	3
ASC1210	Aviation Weather	3
Elective	Aviation Elective**	3
15		

Upper Division Term 2		
Course*	Name	Credits
ACG2001	Principles of Accounting I	3
ASC3210	Advanced Aviation Weather	3
AVM3210	Advanced Aviation Human Factors I	3
ASC3321	Aviation Law II	3
AVM3220	Aviation Safety and Security II	3
15		
Upper Division Term 3		
Course*	Name	Credits
ASC3000	Airline Operations I	3
AVM3100	Aviation Sales & Marketing	3
AVM4500	Quality Assurance in Aviation	3
AVM4000	Aviation Finance	3
AVM4200	International Aviation Operations	3
15		
Upper Division Term 4		
Course*	Name	Credits
AVM3300	Customer Relations in Aviation	3
AVM3200	Aviation Human Resource Management	3
AVM4300	Aviation Planning	3
AVM4400	Aviation Project Management	3
AVM3700	Employee Relations in Aviation	3
15		
* Course numbers subject to change		60

10.12 Is the program being proposed as a limited access program? (If yes, identify admission requirements and indicate enrollment capacity):  Yes  No

### PROGRAM TERMINATION

11.1 Plan of action if program must be terminated, including teach-out alternatives for students.

Broward College Policy 6Hx2-4.10 (attached) directly addresses program closure. The decision to close a program must be made by the District Board of Trustees and communicated to the Southern Association of Colleges and Schools Commission on Colleges by the President of the College. Such action will not be taken without a thorough evaluation of other programming options and special consideration of the implications for students pursuing this degree program. In the unlikely event the BS in Aerospace Sciences is terminated, the College will establish a “teach out” plan in accordance with the Policy Statement of the Commission on Colleges of the Southern Association of Colleges and Schools and notify SACSCOC at least 6 months prior to the

closing of the program and develop a timeline for affected students to complete the program (see Document 16).

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**Appendix Table A.1.**

**INSTRUCTIONS FOR COMPLETING THE DEMAND SECTION OF APPENDIX TABLE A.1.1 and A.1.1.2:** To complete the following table, use the CIP to Standard Occupational Classification (SOC) crosswalk of the U.S. Department of Education to identify the SOC codes for occupations associated with the proposed program’s CIP code. Fill in Table A.1.1 using the employment projections data produced by the Florida Department of Economic Opportunity (DEO), pursuant to Section 445.07, F.S., for the workforce region aligned with the college’s service district for each SOC code associated with the proposed program’s CIP code. The employment projections data may be accessed at <http://www.floridajobs.org/labor-market-information/data-center/statistical-programs/employment-projections>. For proposed programs without a listed SOC linkage, identify the appropriate SOC codes for which the program prepares graduates. Insert additional rows as needed. The total job openings column value shall be divided by eight to reflect total annual job openings. The annualized salary shall be calculated by multiplying the average hourly wage times 40, and then multiplying that value times 52. Complete table A.1.1.2 in the same manner as A.1.1 for any additional sources of employment projections. Duplicate Table A.1.1.2 for additional sources as needed.

<b>DEMAND: FLORIDA DEPARTMENT OF ECONOMIC OPPORTUNITY (DEO) EMPLOYMENT PROJECTIONS</b>											
A.1.1	Occupation			Number of Jobs				Salary		Education Level	
	Name/Title	SOC Code	County/Region	Base Year	Projected Year	Level Change	Total Job Openings (divided by 8)	Avg. Hourly Wage	Annualized Salary		
	Transportation, Storage, and Distribution Mngrs	11-3071	Broward	2015	2023	27	3.375	\$37.81	\$78,645	Associate Degree	
							<b>Total</b>	3.375	\$37.81	\$78,645	Associate Degree

**DEMAND: OTHER ENTITY INDEPENDENT OF THE COLLEGE (LIST NAME AND ADDRESS OF OTHER ENTITY HERE)**

A.1.1.2	Occupation			Number of Jobs				Salary		Education Level
	Name/Title	SOC Code	County/Region	Base Year	Projected Year	Level Change	Total Job Openings	Avg. Hourly Wage	Annualized Salary	
	Commercial Pilots	53-2012	Broward	2015	2023	28	3.50	\$51.99	\$108,139	Postsec/Vocational
								\$--,---	\$--,---	
								\$--,---	\$--,---	
								\$--,---	\$--,---	
								\$--,---	\$--,---	
							<b>Total</b>	3.50	\$51.99	\$108,139

**INSTRUCTIONS FOR COMPLETING THE SUPPLY SECTION OF APPENDIX TABLE A.1.2:** To complete the following table, use the Integrated Postsecondary Education Data System of the National Center for Education Statistics to identify the number of degrees awarded by other regionally accredited postsecondary institutions in the college’s service district under the same or related CIP code(s) as the proposed program. The data center is located at <http://nces.ed.gov/ipeds/datacenter/>. Include degrees awarded for the most recent year available and for the four prior years for each program. If the program has not had degrees awarded for five years or more, add the degrees awarded for the years available, and divide by that number of years, for the average.

**SUPPLY: NATIONAL CENTER FOR EDUCATION STATISTICS, INTEGRATED POSTSECONDARY EDUCATION DATA SYSTEM**

A.1.2	Program		Number of Degrees Awarded					5-year average or average of years available if less than 5 years
	Institution Name	CIP Code	Prior Year 4	Prior Year 3	Prior Year 2	Prior Year 1	Most Recent Year	
	None							
							<b>Total</b>	---

**INSTRUCTIONS FOR COMPLETING THE ESTIMATES OF UNMET NEED SECTION OF APPENDIX TABLE A.1.3:** To complete the following table, column A should be derived from Tables A.1.1 and A.1.1.2 and the totals in columns B and C should be derived from Table A.1.2. Input the figures in the “Total” row in Table A.1.1 and A.1.1.2 for total job openings and Table A.1.2 for most recent year and 5-year average (these figures should be same for all sources). The range of estimated unmet need should be derived from 1) subtracting the figure in column B from the figure in column A and 2) subtracting the figure in column C from the figure in column A. Add rows for additional sources as needed.

<b>ESTIMATES OF UNMET NEED</b>					
A.1.3	DEMAND	SUPPLY		RANGE OF ESTIMATED UNMET NEED	
	(A)	(B)	(C)	(A-B)	(A-C)
	Total Job Openings (divided by 8)	Most Recent Year	5-year average or average of years available if less than 5 years	Difference	Difference
DEO	25.25	N/A	N/A	25.25	25.25
Other: (List here)					

### Appendix Table A.2

**INSTRUCTIONS FOR COMPLETING THE PROJECTED BACCALAUREATE PROGRAM ENROLLMENT SECTION OF APPENDIX TABLE A.2:** To complete the following table, enter the projected enrollment information for the first four years of program implementation. Unduplicated headcount enrollment refers to the actual number of students enrolled. Full-time equivalent (FTE) refers to the full-time equivalent of student enrollment.

PROJECTED BACCALAUREATE PROGRAM ENROLLMENT		Year 1	Year 2	Year 3	Year 4
A.2.1	Unduplicated headcount enrollment:				
A.2.1.1	Admitted Student Enrollment (First-time)	25	30	35	40
A.2.1.2	Total Admitted Student Enrollment	25	55	90	130
A.2.2	FTE Enrollment:				
A.2.2.1	Program Student Credit Hours (Resident)	500	1100	1800	2600
A.2.2.2	Program Student Credit Hours (Non-resident)				
A.2.2.3	Total Program Student Credit Hours	500	1100	1800	2600
A.2.2.4	Program FTE (30 credits) - (Resident)	17	37	60	87
A.2.2.5	Program FTE (30 credits) - (Non-resident)				
A.2.2.6	Total Program FTE	17	37	60	87

**INSTRUCTIONS FOR COMPLETING THE PROJECTED DEGREES AND WORKFORCE OUTCOMES SECTION OF APPENDIX TABLE A.2:** To complete the following table, enter the projected number of degrees awarded, the projected number of graduates employed and the projected average starting salary for program graduates for the first four years of program implementation.

PROJECTED DEGREES AND WORKFORCE OUTCOMES		Year 1	Year 2	Year 3	Year 4
A.2.3	Degrees			20	25
A.2.4	Number Employed			20	25
A.2.5	Average Starting Salary	\$	\$	\$42,000	\$47,000

**INSTRUCTIONS FOR COMPLETING THE REVENUES AND EXPENDITURES SECTION OF APPENDIX TABLE A.2:** To complete the following table, enter the projected program expenditures and revenue sources for the first four years of program implementation.

<b>REVENUES AND EXPENDITURES</b>				
I. PROJECTED PROGRAM EXPENDITURES	Year 1	Year 2	Year 3	Year 4
<b>INSTRUCTIONAL</b>				
1. Faculty Full-Time FTE	1.0	1.0	1.0	2.0
2. Faculty Part-Time FTE	0.5	0.5	0.5	1.0
1. Faculty Full-Time Salaries/Benefits	\$72,600	\$72,600	\$72,600	\$145,200
2. Faculty Part-Time Salaries/Benefits	\$30,000	\$30,000	\$30,000	\$60,000
3. Faculty Support: Lab Assistants	0	0	0	0
<b>OPERATING EXPENSES</b>				
1. Academic Administration	\$22,000	\$20,000	0	0
2. Materials/Supplies	\$500	\$500	\$500	\$500
3. Travel	\$1,000	\$1,000	\$1,000	\$1,000
4. Communication/Technology	0	0	0	0
5. Library Support	0	0	0	0
6. Student Services Support	0	0	0	0
7. Professional Services	0	0	0	0
8. Accreditation	0	0	0	0
9. Support Services	0	0	0	0



CAPITAL OUTLAY				
1. Library Resources	0	0	0	0
2. Information Technology Equipment	\$2,000	0	0	\$2,000
3. Other Equipment	0	0	0	0
4. Facilities/Renovation	0	0	0	0
TOTAL PROJECTED PROGRAM EXPENDITURES	\$128,100	\$124,100	\$104,100	\$208,700
II. NATURE OF EXPENDITURES				
1. Recurring	\$104,100	\$104,100	\$104,100	\$206,700
2. Nonrecurring	\$24,000	\$20,000	0	\$2,000
TOTAL	\$128,100	\$124,100	\$104,100	\$208,700
III. SOURCES OF FUNDS				
A. REVENUE				
1. Special State Nonrecurring	0	0	0	0
2. Upper Level - Resident Student Tuition Only	\$45,895	\$100,969	\$165,222	\$238,654
Upper Level - Nonresident Student Fees Only	0	0	0	0
Upper Level - Other Student Fees	\$16,550	\$36,410	\$59,580	\$86,060
3. Contributions or Matching Grants	0	0	0	0
4. Other Grants or Revenues	0	0	0	0
5. Florida College System Program Funds	\$25,000	\$55,000	\$90,000	\$130,000
6. Unrestricted Fund Balance	0	0	0	0
7. Interest Earnings	0	0	0	0
8. Auxiliary Services	0	0	0	0
9. Federal Funds – Other	0	0	0	0
B. CARRY FORWARD	0	\$(40,655)	\$27,624	\$134,226
TOTAL FUNDS AVAILABLE	\$87,445	\$192,379	\$210,702	\$246,014
TOTAL UNEXPENDED FUNDS (CARRY FORWARD)	\$(40,655)	\$27,624	\$134,226	\$380,240

## Supplemental Materials B.1

### SUPPLEMENTAL MATERIALS

- B.1 Summarize any supporting documents included with the proposal, such as meeting minutes, survey results, letters of support, and other supporting artifacts.

Document 1: Enterprise Florida Targeted Industry – Aviation & Aerospace

Document 2: Enterprise Florida Aviation & Aerospace Wage Data Sheet

Document 3: BLS Airline and Commercial Pilot Occupational Outlook

Document 4: January 28, 2016 Forbes article on pilot shortage and its effects

Document 5: Boeing Pilot and Technician Outlook 2015-2035

Document 6: Florida Department of Economic Opportunity Statewide Job Openings 2015-2023

Document 6a: Florida DEO Statewide Highest-Paying Bachelor’s Degree Level Occupations

Document 7: Florida Department of Economic Opportunity Region 22 Demand Occupations List

Document 8: Greater Fort Lauderdale Alliance Targeted Sector: Aviation & Aerospace

Document 9: Review of Educational Requirements of Select Key Employers

Document 9a: Baccalaureate Requirements of Select Key Employers

Document 10: Student Survey of Interest

Document 11: Board of Trustees Minutes of Meeting April 23, 2013.

Document 12: Letter of Intent Submission to the Florida Department of Education

Document 13: Letters of Support from Key Employers and Stakeholders

Document 14: Regional Institution Coordination

Document 15: Objection Letter from Everglades University

Document 16: Broward College Policy 6Hx2-4.10

Document 17: FL DEO Region 22 Outlook (SOC 113071 and 532012).

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List any objections or alternative proposal received from other postsecondary institutions for this program.

In a letter dated September 18, 2014 (attached) Everglades University expressed their objection to our proposal. We note that their letter was received outside the window to lodge such objection; DOE notification was sent on July 1, 2014 and objections were due within 30 days. In the objection letter, Everglades University states that they offer a similar program at their Boca Raton campus, and that a current articulation agreement, which they attached to their objection letter, is in place between the two institutions. We note, however, that Everglades University is not within our service area (Region 22), and that the articulation agreement referenced expired in 2010. We have not renewed this articulation agreement for

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two reasons: 1. Student interest in attending Everglades University was very low, due to its location in Boca Raton, FL. Students prefer to attend college in Broward County rather than Palm Beach County, and 2. The cost of attending Everglades University is much higher than Broward College. The cost of one credit hour in the upper division is \$627 at Everglades University (<http://www.evergladesuniversity.edu/tuition-and-fees/>), whereas the cost of one credit hour in the upper division at Broward College is only \$128.89. This is a huge cost savings to students interested in pursuing a bachelor's degree in Aerospace Sciences.

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FLORIDA  
THE FUTURE IS HERE

# AVIATION & AEROSPACE





## Top 5 Reasons

Florida is already home to **more than 2,000 aerospace and aviation companies** employing almost **80,000 workers** across the state.

*Here's why your company should be in Florida, too:*

### 1 Pick the Best of the Best

More than 50,700 active duty military and a significant number of veterans, as well as rocket scientists, machinists, pilots, and engineers are part of Florida's flexible, "badgeable" talent pool.

### 2 Connect with the Best

Virtually every major defense contractor from the U.S. and abroad has significant operations in Florida, **generating a robust supply chain that benefits all.**

### 3 Infrastructure to Meet your Needs

Florida's valuable industry assets include 22 airports with runways of 10,000+ feet, two spaceports, and advanced space vehicle, payload processing, and launch/landing facilities — **supporting a full range of industry activities, from R&D, to testing, to service.**

### 4 Benefit your Bottom Line

A cost-competitive environment, favorable tax structure, no personal income tax, industry-specific incentives and workforce training programs, and superior quality of life **make it easy to be in business in Florida.**

### 5 Access the World

Florida's 19 commercial airports account for 10% of the nation's total passengers and enplane about 8% of the nation's air cargo. **Florida is a convenient base for business travel and the shipment of goods.**

BROWARD COLLEGE

## Florida's Strengths in Aviation & Aerospace

Few states can match the broad range of industry expertise available in Florida. In fact, Florida is home to one of the nation's largest aerospace and aviation industries (**2,000+ companies**), and has long been the world's premier gateway to space, the undisputed air traffic hub of the Western Hemisphere, a major hub for flight training and MRO, and home to leading manufacturers of all types of aircraft and aircraft components.



### Aerospace

Size: **470+ companies**

**Areas of Excellence:** aircraft assembly and parts, avionics, payload processing, propulsion systems, guided missiles and air defense systems, rockets and spacecraft, UAS, and intelligence, surveillance, and reconnaissance

**Select Companies in Florida:** Boeing, DRS Technologies, Embraer, General Dynamics, Honeywell, L-3, Lockheed Martin, Northrop Grumman, Pratt & Whitney, Raytheon, Rockwell Collins, Sikorsky



### Aviation

Size: **1,670+ companies**

**Areas of Excellence:** MRO, flight training, logistics, global air cargo, simulation/training, passenger to freighter conversions, avionics installation and retrofit, air travel

**Select Companies in Florida:** Airbus, BBA Aviation, Commercial Jet, Daher Socata, FedEx, Flight Safety International, LAN Cargo, LiveTV, Signature Flight Support Corporation, Spirit Airlines, UPS

Photos above: (Left) Embraer Phenom 100 assembled in Melbourne, Florida. (Right) Northrop Grumman E-2D Advanced Hawkeye manufactured in St. Augustine, Florida.

## Florida Fast Facts

**#1** state for aerospace manufacturing attractiveness<sup>1</sup>

**#2** state in aviation, aerospace, and space establishments<sup>2</sup>

**20** major military installations<sup>3</sup>

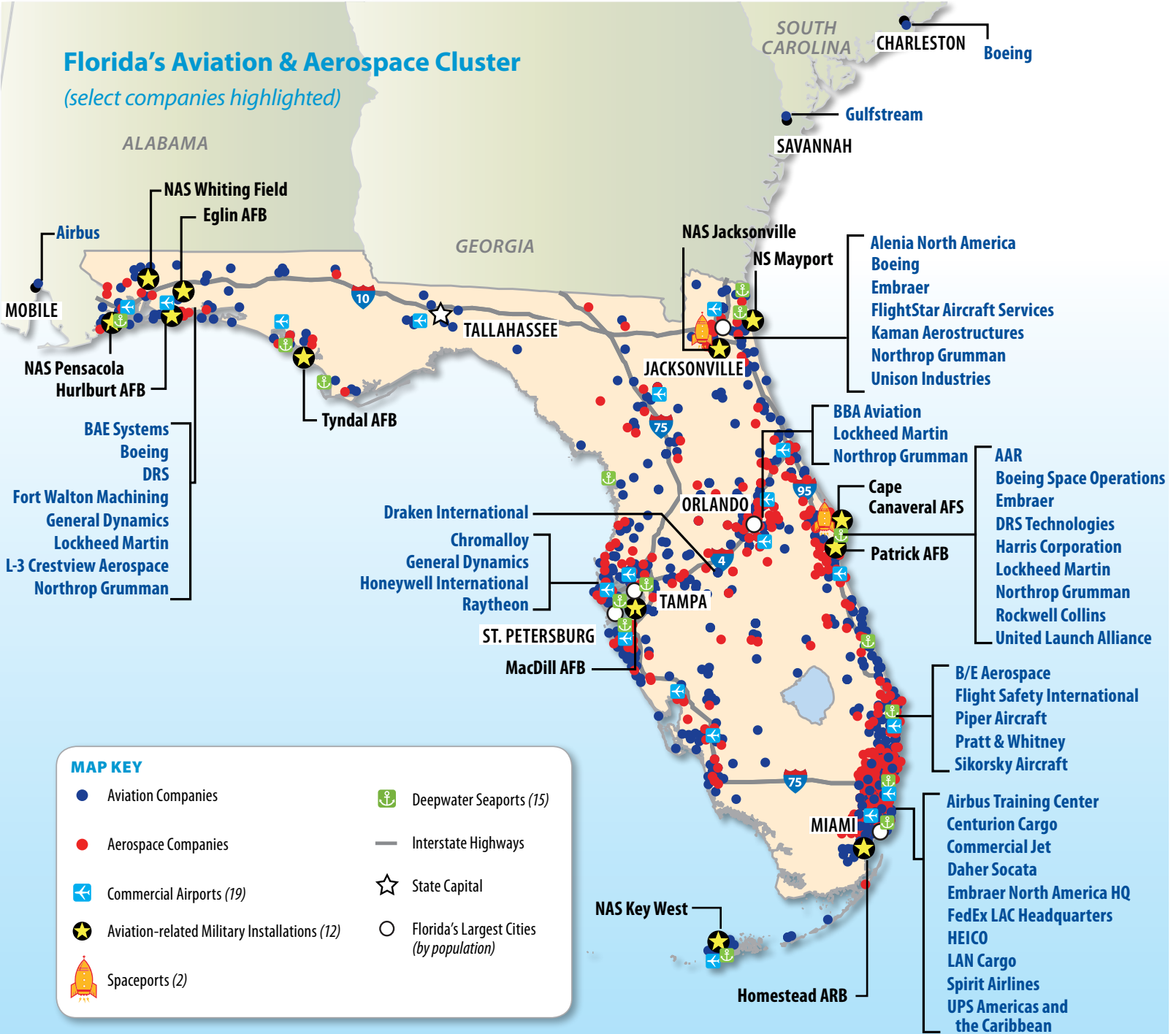
**100+** public use airports<sup>4</sup> support global commerce, aircraft technology testing, and manufacturing operations

<sup>1</sup> PricewaterhouseCoopers <sup>2</sup> Primary data source: U.S. Dept. of Labor <sup>3</sup> Florida Defense Alliance

<sup>4</sup> Florida Dept. of Transportation

# Florida's Aviation & Aerospace Cluster

(select companies highlighted)



## Comparative Costs for Aerospace and Aviation Companies in Florida vs. Other Markets

	FLORIDA	ALABAMA	CALIFORNIA	GEORGIA	KANSAS	SOUTH CAROLINA	TEXAS	WASHINGTON
Personal Income Tax Rate (Highest Rate)	None	5.00%	13.30%	6.00%	4.80%	7.00%	None	None
Corporate Income Tax or Gross Receipts Tax Rate* (Highest Rate)	5.50%	6.50%	8.84%	6.00%	7.00%	5.00%	*.005% -1%	*0.138% - 3.3%
State Business Tax Climate Ranking	5	28	48	36	22	37	10	11
Private Sector Union Membership	2.50%	6.90%	9.20%	2.90%	5.00%	1.90%	2.80%	10.90%
Aviation Average Annual Wage	\$59,028	\$62,776	\$68,730	\$76,687	\$47,872	\$49,885	\$74,140	\$73,294
Aerospace Products & Parts Manufacturing Average Annual Wage	\$74,288	\$69,271	\$103,767	\$83,022	\$80,612	\$96,201	\$94,111	\$64,392

## Why Florida is the perfect climate for business:

**“The talented workforce and global access Florida provides has allowed us to operate successfully here for decades. Our two new centers of excellence and state-of-the-art manufacturing facility will allow us to continue our growth and benefit our customers, our company and the community for many more years.”**

Rick Matthews, Vice President of Florida Operations and Melbourne Site Manager, Northrop Grumman Aerospace Systems

**“Having led other manufacturing site searches around the globe, what I can share is a confirmation of what we experienced here and come to expect. Florida is a great place to do business from every perspective: a strong pro-business environment, a skilled workforce and an important mix of industrial capabilities to run a global operation.”**

Marco Túlio Pellegrini, President and CEO  
Embraer Executive Jets

**“Breaking ground on the newest facility at our growing aeronautical cluster in Melbourne is an important milestone for Embraer on its path to becoming a truly global company. This latest achievement is a testament to the close partnership we have with the state of Florida and economic development authorities on the Space Coast and Melbourne, without which this aviation campus would not have been possible.”**

Gary Spulak, President  
Embraer Aircraft Holding Inc.

# Ready?

**Enterprise Florida** stands ready to assist in every aspect of your next project. Please don't hesitate to contact us.

**For expansion and location assistance, contact:**



**Destin Wells**  
Manager, Business Development  
+1 (407) 956-5650  
dwells@enterprise-florida.com

**For trade and exporting assistance, contact:**



**Paul Mitchell**  
Director, International Trade Development  
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Circles represent approximate flight times from Florida in one-hour increments.





## FLORIDA PRIVATE SECTOR ESTABLISHMENTS, EMPLOYMENT AND WAGES, 2013

Description	NAICS code	Establishments	Employees	Average Number of Workers	Average Annual Wage \$	Total Payroll \$ Millions
<b>Aviation/ Aerospace Total</b>		<b>2,149</b>	<b>76,522</b>	<b>39</b>	<b>\$63,346</b>	<b>\$4,847.3</b>
<b>Aviation Subtotal</b>		<b>1,676</b>	<b>54,872</b>	<b>33</b>	<b>\$59,028</b>	<b>\$3,239.0</b>
Air Transportation, of which:	481	652	32,973	51	\$68,937	\$2,273.1
Scheduled Passenger Air Transportation	481111	167	27,477	165	\$69,984	\$1,923.0
Scheduled Freight Air Transportation	481112	116	1,957	17	\$57,651	\$112.8
Nonscheduled Chartered Passenger Air transportation	481211	212	2,048	10	\$67,035	\$137.3
Nonscheduled Chartered Freight Air Transportation	481212	56	868	16	\$62,625	\$54.3
Other Nonscheduled Air Transportation	481219	101	623	6	\$73,380	\$45.7
Support Activities for Air Transportation of which:	4881	851	19,660	23	\$42,976	\$844.9
Air Traffic Control	488111	9	300	33	\$75,791	\$22.7
Other Airport Operations	488119	183	8,353	46	\$26,670	\$222.8
Other Support Activities for Air Transportation	488190	659	11,007	17	\$54,456	\$599.4
Flight Training	611512	173	2,239	13	\$54,052	\$121.0

Note: Totals may not add up precisely due to rounding.

Primary data source: U.S. Dept. of Labor, Bureau of Labor Statistics, QCEW  
<http://www.bls.gov/cew/home.htm>

<b>Aerospace Subtotal</b>		<b>473</b>	<b>21,650</b>	<b>46</b>	<b>\$74,288</b>	<b>\$1,608.3</b>
Search, Detection, Navigation, Guidance, Aeronautical, and Nautical Instrument Manufacturing	334511	76	8,509	112	\$80,256	\$682.9
Aerospace Product and Parts Manufacturing, of which:	3364	397	13,141	33	\$70,424	\$925.4
Aircraft Manufacturing	336411	65	4,698	72	\$72,010	\$338.3
Aircraft Engine and Engine Parts Manufacturing:	336412	94	3,665	39	\$81,091	\$297.2
Other Aircraft Parts and Auxiliary Equipment Manufacturing	336413	90	4,156	46	\$57,180	\$237.6
Guided Missile and Space Vehicle Manufacturing	336414	39	0	0	\$0	\$0.0
Guided Missile and Space Vehicle Propulsion Unit and Other Parts Manufacturing	336415, 336419	14	0	0	\$0	\$0.0
Satellite Communications	517410	95	622	7	\$83,971	\$52.2

Note: Totals may not add up precisely due to rounding.

Primary data source: U.S. Dept. of Labor, Bureau of Labor Statistics, QCEW  
<http://www.bls.gov/cew/home.htm>

## Airline and Commercial Pilots

### Summary



Corporate pilots may personally greet passengers before a flight.

Quick Facts: Airline and Commercial Pilots	
2015 Median Pay	\$102,520 per year
Typical Entry-Level Education	<a href="#">See How to Become One</a>
Work Experience in a Related Occupation	<a href="#">See How to Become One</a>
On-the-job Training	Moderate-term on-the-job training
Number of Jobs, 2014	119,200
Job Outlook, 2014-24	5% (As fast as average)
Employment Change, 2014-24	5,400

### [What Airline and Commercial Pilots Do](#)

Airline and commercial pilots fly and navigate airplanes, helicopters, and other aircraft. Airline pilots fly for airlines that transport people and cargo on a fixed schedule. Commercial pilots fly aircraft for other purposes, such as charter flights, rescue operations, firefighting, aerial photography, and aerial application, also known as crop dusting.

### [Work Environment](#)

Pilots work primarily in aircraft. They may spend a considerable amount of time away from home because of overnight layovers. Many pilots have variable schedules.

### [How to Become an Airline or Commercial Pilot](#)

Most airline pilots begin their careers as commercial pilots. Commercial pilots typically need a high school diploma or equivalent. Airline pilots typically need a bachelor's degree. All pilots who are paid to fly must have at least a commercial pilot's license from the \_\_\_\_\_

The median annual wage for airline and commercial pilots was \$102,520 in May 2015.

### [Job Outlook](#)

Employment of airline and commercial pilots is projected to grow 5 percent from 2014 to 2024, about as fast as the average for all occupations. Low-cost regional airlines and nonscheduled aviation services will provide the most job opportunities. Pilots seeking jobs at the major airlines will face strong competition.

### [State & Area Data](#)

Explore resources for employment and wages by state and area for airline and commercial pilots.

### [Similar Occupations](#)

Compare the job duties, education, job growth, and pay of airline and commercial pilots with similar occupations.

### [More Information, Including Links to O\\*NET](#)

Learn more about airline and commercial pilots by visiting additional resources, including O\*NET, a source on key characteristics of workers and occupations.

## What Airline and Commercial Pilots Do

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Commercial pilots are involved in activities such as firefighting and crop dusting.

Airline and commercial pilots fly and navigate airplanes, helicopters, and other aircraft. Airline pilots fly for airlines that transport people and cargo on a fixed schedule. Commercial pilots fly aircraft for other purposes, such as charter flights, rescue operations, firefighting, aerial photography, and aerial application of agricultural materials.

### Duties

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Pilots typically do the following:

- Check the overall condition of the aircraft before and after every flight
- Ensure that the aircraft is balanced and below its weight limit
- Ensure that the fuel supply is adequate and that weather conditions are acceptable, and submit flight plans to air traffic control
- Communicate with air traffic control over the aircraft's radio system
- Operate and control aircraft along planned routes and during takeoffs and landings
- Monitor engines, fuel consumption, and other aircraft systems during flight
- Respond to changing conditions, such as weather events and emergencies (for example, an engine failure)
- Navigate the aircraft by using cockpit instruments and visual references

Many aircraft use two pilots. The captain or pilot in command, usually the most experienced pilot, supervises all other crew members and has primary responsibility for the flight. The copilot, often called the first officer or second in command, shares flight duties with the captain. Some older planes require a third pilot known as a flight engineer, who monitors instruments and operates controls. New technology has automated many of these tasks, and new aircraft do not require flight engineers.

Pilots must have good teamwork skills because they work closely with other pilots on the flight deck, as well as with air traffic controllers and flight dispatchers. They need to be able to coordinate actions and provide clear and honest feedback.

Pilots plan their flights carefully by making sure that the aircraft is operable and safe, that the cargo has been loaded correctly, and that weather conditions are acceptable. They file flight plans with air traffic control and may modify the plans in flight because of changing weather conditions or other factors.

Takeoff and landing can be the most difficult parts of a flight and require close coordination among the pilot, copilot, flight engineer, if present, and ground personnel. Once in the air, the captain and first officer usually alternate flying activities so that each can maintain their flying skills, as well as get rest. After landing, pilots must fill out records that document their flight and the status of the aircraft.

Many pilots will have some contact with passengers and customers. Charter and corporate pilots often will need to greet their passengers before embarking on the flight. Some airline pilots may have to help handle customer complaints.

Commercial pilots may have many more nonflight duties than airline pilots have. Commercial pilots may have to schedule flights, arrange for maintenance of the aircraft, and load luggage themselves. Agricultural pilots typically have to handle agricultural chemicals, such as pesticides, and may be involved in other agricultural practices in addition to flying. Flight instructors may need to spend time recruiting students or teaching ground school.

Pilots who routinely fly at low levels must constantly look for trees, bridges, power lines, transmission towers, and other dangerous obstacles. These obstacles present a common danger to agricultural pilots and air ambulance helicopter pilots, who frequently land on or near highways and accident sites that do not have improved landing strips.

The following are examples of types of pilots:

**Airline pilots** are commercial pilots who work primarily for airlines that transport passengers and cargo on a fixed schedule.

**Corporate pilots** fly for companies that own a fleet of planes to transport passengers such as company executives.

**Commercial pilots** are involved in unscheduled flight activities, such as aerial application, charter flights, aerial photography, and aerial tours.

**Flight instructors** are commercial pilots who use simulators and dual-controlled aircraft to teach students how to fly.

With proper training, airline pilots may also be deputized as federal law enforcement officers and be issued firearms to protect the cockpit.

## Work Environment

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Airline pilots operate and control aircraft along planned routes and during takeoffs and landings.

Pilots held about 119,200 jobs in 2014.

About 64 percent worked as airline pilots, copilots, and flight engineers. The remainder worked as commercial pilots.

In 2014, most airline pilots, copilots, and flight engineers—about 87 percent—worked for scheduled air transportation providers, mainly the airlines.

The industries that employed the most commercial pilots in 2014 were as follows:

Nonscheduled air transportation	32%
Technical and trade schools; private	11
Support activities for air transportation	7
Ambulance services	7

Pilots must learn to cope with several work-related hazards. For example, airline pilots assigned to long-distance routes may experience fatigue and jetlag. Weather and the condition of the aircraft also can pose unique hazards. In addition, flights can be long and flight decks are often sealed, so pilots must be able to work in small teams for long periods in close proximity to one another.

Commercial pilots face other types of job hazards. Many commercial pilot specialties, especially those which require a lot of low-altitude flying, can be dangerous. Aerial applicators, also known as crop dusters, may be exposed to toxic chemicals, typically use unimproved landing strips, and are at a higher risk of collision with power lines and birds than many other pilots are. Helicopter pilots involved in rescue operations regularly fly at low levels during bad weather or at night. These pilots also often land in areas surrounded by power lines and other obstacles, such as highways. In addition, pilots can be exposed to engine noise, but there is little risk of hearing impairment if proper hearing protection devices are used.

Although flying may not involve unusually high levels of physical effort, the high level of concentration required to fly an aircraft and the mental stress of being responsible for the safety of passengers can be fatiguing. Pilots must be alert and quick to react if something goes wrong, particularly during takeoff and landing. As a result, federal law requires pilots to retire at age 65.

Pilots work all over the country, but most are based near large airports.



## Work Schedules

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Federal regulations set maximum work hours and minimum requirements for rest between flights for most pilots. Airline pilots fly an average of 75 hours per month and work an additional 150 hours per month performing other duties. Pilots have variable work schedules that may include some days of intense work followed by some days off. Flight assignments are based on seniority. In general, that practice means that pilots who have worked at a company for a long time get preferred routes and schedules.

Airline pilots spend a considerable amount of time away from home because flight assignments often involve overnight layovers—sometimes up to several nights a week. When pilots are away from home, the airlines typically provide hotel accommodations, transportation to the airport, and an allowance for meals and other expenses.

Commercial pilots also have irregular schedules. They typically fly between 30 hours and 90 hours each month. Commercial pilots may have less free time than airline pilots because they frequently have more nonflight responsibilities than airline pilots have. Although most commercial pilots remain near their home overnight, they may still work nonstandard hours.

## How to Become an Airline or Commercial Pilot

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Pilots and copilots work together to fly complex aircraft.

Most airline pilots begin their careers as commercial pilots. Commercial pilots typically need a high school diploma or equivalent. Airline pilots typically need a bachelor's degree. All pilots who are paid to fly must have at least a commercial pilot's license from the [Federal Aviation Administration](#).

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certificates and ratings, such as Certified Flight Instructor (CFI), CFI-Instrument (CFII), Multi-Engine Instructor (MEI), MEI-Instrument (MEII), and possibly others. Many additional requirements exist for other specialties. They range from being able to operate gliders and tow banners to being qualified to fly helicopters and airships.

Commercial pilots typically begin their flight training with independent FAA-certified flight instructors or at schools that offer flight training. The FAA certifies hundreds of civilian flight schools, which range from small FBOs to large state universities. Some colleges and universities offer pilot training as part of a 2- or 4-year aviation degree. Regardless of whether pilots attend flight schools or learn from independent instructors, all pilots need the FAA's commercial pilot license before they can be paid to fly. In addition, most commercial pilots need an instrument rating, typically to fly through clouds or other conditions that limit visibility. An instrument rating also is required to carry paying passengers more than 50 miles from the point of origin of their flight or at night.

Interviews for positions with major and regional airlines often reflect the FAA exams for pilot licenses, certificates, and instrument ratings, and can be intense. Airlines frequently will conduct their own psychological and aptitude tests in order to make sure that their pilots are of good moral character and can make good decisions under pressure.

Airline and commercial pilots who are newly hired by airlines or on-demand air services companies must undergo moderate-term on-the-job training in accordance with Federal Aviation Regulations (FARs). This training usually includes 6–8 weeks of ground school and 25 hours of flight time. In addition, commercial pilots may need specific training based on the type of flying they are doing. For example, those who tow banners will likely need at least 200 hours in airplanes with conventional (tailwheel) landing gear. Further, various types of ratings for specific aircraft, such as the Boeing 737 or Cessna Citation, typically are acquired through employer-based training and generally are earned by pilots who have at least a commercial license.

Besides initial training and licensing requirements, all pilots must maintain their experience in performing certain maneuvers. This requirement means that pilots must perform specific maneuvers and procedures a given number of times within a specified amount of time. Furthermore, pilots must undergo periodic training and medical examinations, generally every year or every other year.

## Work Experience in a Related Occupation

Airline pilots typically begin their careers as commercial pilots. Pilots usually accrue thousands of hours of flight experience as commercial pilots or in the military to get a job with regional or major airlines.

## Licenses, Certifications, and Registrations

Those who are seeking a career as a professional pilot typically get their licenses and ratings in the following order:

- Student Pilot Certificate
- Private Pilot License
- Instrument Rating
- Commercial Pilot License
- Multi-Engine Rating
- Airline Transport Pilot Certificate

Each certificate and rating requires that pilots pass a written exam on the ground and a practical flying exam, usually called a check ride, in an appropriate aircraft. In addition to earning these licenses, many pilots get Certified Flight Instructor (CFI) rating after they get their commercial certificate. The CFI rating helps them build flight time and experience more quickly and at less personal expense. Current licensing regulations can be found in FARs.

**Commercial pilot license.** To qualify for a commercial pilot license, applicants must be at least 18 years old and meet certain flight-hour requirements. When student pilots first begin their training, they need to get a logbook and keep detailed records of their flight time. Also, their school may require them to log their ground instruction time. The logbook must be endorsed by the flight instructor in order for the student to be able to take the FAA knowledge and practical exams. For specific requirements, including details on the types and quantities of flight experience and knowledge requirements, see the FARs. Part 61 of Title 14 of the code of federal regulations ([14 CFR part 61](#)) covers the basic rules for the certification of pilots. Flight schools can train pilots in accordance with the rules from part 61 or the rules found in [14 CFR part 141](#).

In addition, applicants must pass the appropriate medical exam, meet all of the detailed flight experience and knowledge requirements, and pass a written exam and a practical flight exam in order to become commercially licensed. The physical



exam confirms that the pilot's vision is correctable to 20/20 and that no physical handicaps exist that could impair the pilot's performance.

Commercial pilots must hold an instrument rating if they want to carry passengers for pay more than 50 miles from the point of origin of their flight or at night.

**Instrument rating.** Earning their instrument rating enables pilots to fly during periods of low visibility, also known as instrument meteorological conditions or IMC. They may qualify for this rating by having at least 40 hours of instrument flight experience and 50 hours of cross-country flight time as pilot in command and by meeting other requirements detailed in the FARs.

**Airline transport pilot (ATP) certification.** Beginning in 2013, all pilot crews of a scheduled commercial airliner must have ATP certificates. To earn the ATP certificate, applicants must be at least 23 years old, have a minimum of 1,500 hours of flight time, and pass written and practical flight exams. Furthermore, airline pilots usually maintain one or more aircraft-type ratings, which allow them to fly aircraft that require specific training, depending on the requirements of their particular airline. Some exceptions and alternative requirements are detailed in the FARs.

Pilots must pass periodic physical and practical flight examinations to be able to perform the duties granted by their certificate.

## Other Experience

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Minimum time requirements to get a certificate or rating may not be enough to get some jobs. To make up the gap between paying for training and flying for the major airlines, many commercial pilots begin their careers as flight instructors and on-demand charter pilots. These positions typically require less experience than airline jobs require. When pilots have built enough flying hours, they can apply to the airlines. Newly hired pilots at regional airlines typically have about 2,000 hours of flight experience. Newly hired pilots at major airlines typically have about 4,000 hours of flight experience. Many commercial piloting jobs have minimum requirements of around 500 hours. Numerous factors can affect this number, such as the type of flight time the pilot has.

## Important Qualities

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**Communication skills.** Pilots must speak clearly when conveying information to air traffic controllers and other crew members. They must also listen carefully for instructions.

**Observational skills.** Pilots must regularly watch over screens, gauges, and dials to make sure that all systems are in working order. They also need to maintain situational awareness by looking for other aircraft or obstacles. Pilots must be able to see clearly, be able to judge the distance between objects, and possess good color vision.

**Problem-solving skills.** Pilots must be able to identify complex problems and figure out appropriate solutions. When a plane encounters turbulence, for example, pilots may assess the weather conditions and request a change in route or altitude from air traffic control.

**Quick reaction time.** Pilots must be able to respond quickly, and with good judgment, to any impending danger, because warning signals can appear with no notice.

## Advancement

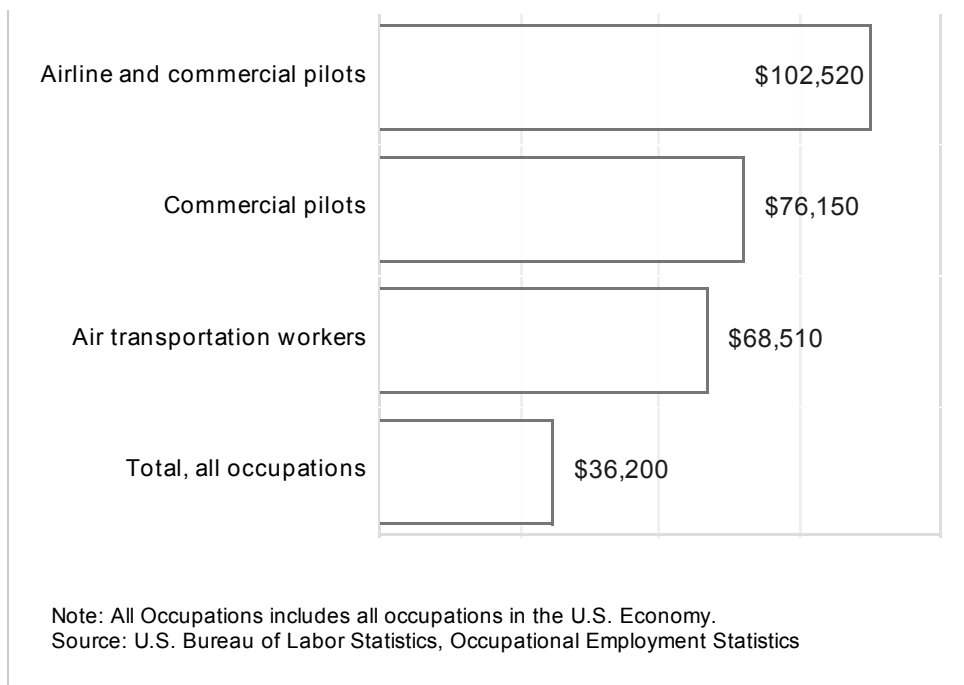
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For airline pilots, advancement depends on a system of seniority outlined in collective bargaining contracts. Typically, after 1 to 5 years, flight engineers may advance to first officer positions and, after 5 to 15 years, first officers can become captains. In large companies, a captain could become a chief pilot or a director of aviation.

## Pay

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<b>Airline and Commercial Pilots</b>	
Median annual wages, May 2015	
Airline pilots, copilots, and flight engineers	\$117,290



The median annual wage for airline pilots, copilots, and flight engineers was \$117,290 in May 2015. The median wage is the wage at which half the workers in an occupation earned more than that amount and half earned less. The lowest 10 percent earned less than \$60,770, and the highest 10 percent earned more than \$187,200.

The median annual wage for commercial pilots was \$76,150 in May 2015. The lowest 10 percent earned less than \$34,800, and the highest 10 percent earned more than \$147,890.

In May 2015, the median annual wages for commercial pilots in the top industries employing these pilots were as follows:

Nonscheduled air transportation	\$74,880
Support activities for air transportation	73,350
Ambulance services	72,460
Technical and trade schools; private	69,950

According to the [Air Line Pilots Association, International](#), most airline pilots begin their careers earning about \$20,000 per year. Wages increase each year until the pilot accumulates the experience and seniority needed to become a captain. The average captain at a regional airline earns about \$55,000 per year, and the average captain at a major airline earns about \$135,000 per year.

In addition, airline pilots receive an expense allowance, or “per diem,” for every hour they are away from home, and they may earn extra pay for international flights. Airline pilots also are eligible for health insurance and retirement benefits, and their immediate families usually are entitled to free or reduced-fare flights.

Federal regulations set the maximum work hours and minimum requirements for rest between flights for most pilots. Airline pilots fly an average of 75 hours per month and work an additional 150 hours per month performing other duties. Pilots have variable work schedules that may include several days of intense work followed by some days off. Flight assignments are based on seniority. In general, seniority enables pilots who have worked at a company for a long time to get preferred routes and schedules.

Airline pilots spend a considerable amount of time away from home because flight assignments often involve overnight layovers—sometimes up to several nights a week. When pilots are away from home, the airlines typically provide hotel accommodations, transportation to the airport, and an allowance for meals and other expenses.

Commercial pilots also have irregular schedules. They typically fly between 30 hours and 90 hours each month. Commercial pilots may have less free time than airline pilots because they frequently have more nonflight responsibilities than airline pilots have. Although most commercial pilots remain near their home overnight, they may still work nonstandard hours.

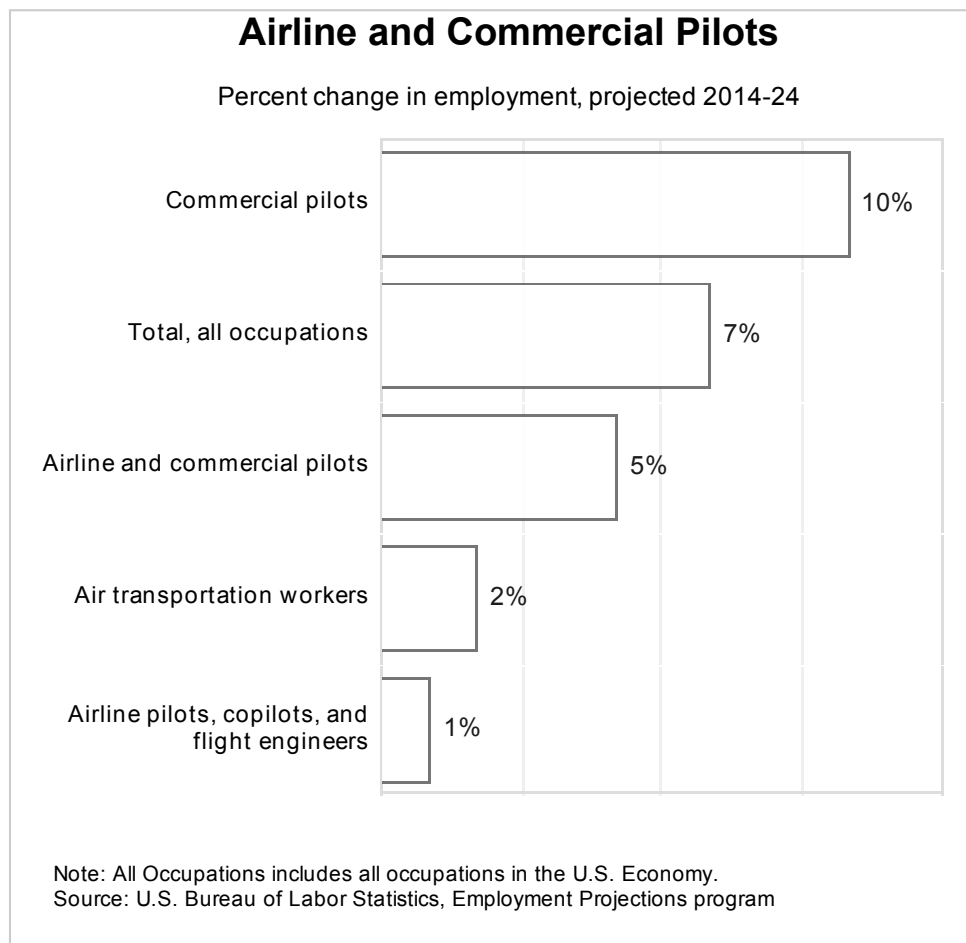
## Union Membership

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Most airline and commercial pilots belonged to a union in 2014.

## Job Outlook

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Overall, employment of airline and commercial pilots is projected to grow 5 percent from 2014 to 2024, about as fast as the average for all occupations.

Employment of airline pilots, copilots, and flight engineers is projected to show little or no change from 2014 to 2024. It is likely that scheduled airlines will attempt to increase profitability over the next decade by increasing the average number of passengers in all of their aircraft. This goal will probably be achieved by eliminating routes with low demand and reducing the number of flights per day along more heavily used routes. These practices will ultimately lower the overall number of flights and lower the total number of pilot jobs.

Employment of commercial pilots is projected to grow 10 percent from 2014 to 2024, faster than the average for all occupations. Commercial pilots are projected to add jobs in various industries, including ambulance services and support activities for air transportation.

## Job Prospects

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Most job opportunities will arise from the need to replace pilots who leave the workforce. From 2014 to 2024, many pilots are expected to retire as they reach the required retirement age of 65.

Job prospects may be best with regional airlines, low-cost carriers, and nonscheduled aviation services because entry-level requirements are lower for regional and commercial jobs. There is typically less competition among applicants in these sectors than there is for major airlines.

Pilots seeking jobs at the major airlines will face strong competition because those firms tend to attract many more applicants than the number of job openings. Applicants also will have to compete with furloughed pilots for available jobs.

Pilots with the greatest number of flight hours usually have some advantage, but the type of time also matters a great deal.

For example, pilots who have greater amounts of time in turbine engine-powered aircraft often have an advantage over those who do not. For this reason, military and experienced pilots will have an advantage over applicants whose flight time consists only of small piston-driven aircraft.

### Employment projections data for airline and commercial pilots, 2014-24

Occupational Title	SOC Code	Employment, 2014	Projected Employment, 2024	Change, 2014-24		Employment by Industry
				Percent	Numeric	
Airline and commercial pilots	—	119,200	124,500	5	5,400	—
Airline pilots, copilots, and flight engineers	53-2011	75,700	76,500	1	800	[ <a href="#">XLSX</a> ]
Commercial pilots	53-2012	43,500	48,000	10	4,500	[ <a href="#">XLSX</a> ]

SOURCE: U.S. Bureau of Labor Statistics, Employment Projections program

## State & Area Data

### Occupational Employment Statistics (OES)

The [Occupational Employment Statistics](#) (OES) program produces employment and wage estimates annually for over 800 occupations. These estimates are available for the nation as a whole, for individual states, and for metropolitan and nonmetropolitan areas. The link(s) below go to OES data maps for employment and wages by state and area.

- [Airline pilots, copilots, and flight engineers](#)
- [Commercial pilots](#)

### Projections Central


Occupational employment projections are developed for all states by Labor Market Information (LMI) or individual state Employment Projections offices. All state projections data are available at [www.projectionscentral.com](http://www.projectionscentral.com). Information on this site allows projected employment growth for an occupation to be compared among states or to be compared within one state. In addition, states may produce projections for areas; there are links to each state's websites where these data may be retrieved.

### Career InfoNet

America's Career InfoNet includes hundreds of [occupational profiles](#) with data available by state and metro area. There are links in the left-hand side menu to compare occupational employment by state and occupational wages by local area or metro area. There is also a [salary info tool](#) to search for wages by zip code.

## Similar Occupations

This table shows a list of occupations with job duties that are similar to those of airline and commercial pilots.

	OCCUPATION	JOB DUTIES	ENTRY-LEVEL EDUCATION	2015 MEDIAN PAY
	<a href="#">Aircraft and Avionics Equipment Mechanics and Technicians</a>	Aircraft and avionics equipment mechanics and technicians repair and perform scheduled maintenance on aircraft. They also may perform aircraft inspections as required by the	<a href="#">See How to Become One</a>	\$58,390
BROWARD COLLEGE				



[Air Traffic  
Controllers](#)

Federal Aviation Administration (FAA).

Air traffic controllers coordinate the movement of air traffic to ensure that aircraft stay safe distances apart.

Associate's degree

\$122,950



[Bus Drivers](#)

Bus drivers transport people between various places—including work, school, and shopping malls—and across state or national borders. Some drive regular routes, and others transport passengers on chartered trips or sightseeing tours.

High school diploma or equivalent

\$30,950



[Construction  
Equipment  
Operators](#)

Construction equipment operators drive, maneuver, or control the heavy machinery used to construct roads, bridges, buildings, and other structures.

High school diploma or equivalent

\$43,810



[Delivery Truck  
Drivers and  
Driver/Sales  
Workers](#)

Delivery truck drivers and driver/sales workers pick up, transport, and drop off packages and small shipments within a local region or urban area. They drive trucks with a gross vehicle weight (GVW)—the combined weight of the vehicle, passengers, and cargo—of 26,000 pounds or less. Most of the time, delivery truck drivers transport merchandise from a distribution center to businesses and households.

High school diploma or equivalent

\$27,760



[Flight  
Attendants](#)

Flight attendants provide routine services and respond to emergencies to ensure the safety and comfort of airline passengers.

High school diploma or equivalent

\$44,860



[Heavy and Tractor-trailer Truck Drivers](#)

Heavy and tractor-trailer truck drivers transport goods from one location to another. Most tractor-trailer drivers are long-haul drivers and operate trucks with a gross vehicle weight (GVW) capacity—that is, the combined weight of the vehicle, passengers, and cargo—exceeding 26,000 pounds. These drivers deliver goods over intercity routes, sometimes spanning several states.

Postsecondary nondegree award

\$40,260



[Material Moving Machine Operators](#)

Material moving machine operators use machinery to transport various objects. Some operators move construction materials around building sites or excavate earth from a mine. Others move goods around a warehouse or onto container ships.

[See How to Become One](#)

\$33,640



[Railroad Workers](#)

Workers in railroad occupations ensure that passenger and freight trains run on time and travel safely. Some workers drive trains, some coordinate the activities of the trains, and others operate signals and switches in the rail yard.

High school diploma or equivalent

\$55,180




[Taxi Drivers and Chauffeurs](#)

Taxi drivers and chauffeurs drive people to and from the places they need to go, such as airports, homes, shopping centers, and workplaces. They must know their way around a city to take passengers to their destinations.

No formal educational credential

\$23,510

Water transportation workers operate and

	<a href="#">Water Transportation Workers</a>	maintain vessels that take cargo and people over water. The vessels travel to and from foreign ports across the ocean and to domestic ports along the coasts, across the Great Lakes, and along the country's many inland waterways.	<a href="#">See How to Become One</a>	\$55,000
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## Contacts for More Information

For specific information about licensing requirements and other federal regulations regarding pilots and operators, visit

[Regulations concerning the certification of airmen and general flight rules](#)

[Regulations concerning air carriers and operators for compensation or hire, and flight schools](#)

For more information about pilots, visit

[Aircraft Owners and Pilots Association](#)

[Air Line Pilots Association, International](#)

[Coalition of Airline Pilots Associations](#)

[Federal Aviation Administration](#)

[Helicopter Association International](#)

[National Agricultural Aviation Association](#)

O\*NET

[Airline Pilots, Copilots, and Flight Engineers](#)

[Commercial Pilots](#)

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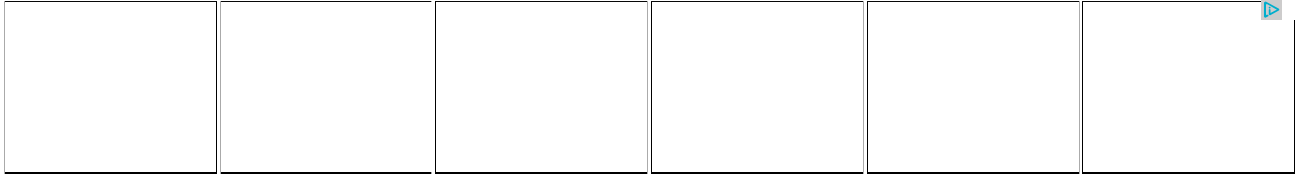
Bureau of Labor Statistics, U.S. Department of Labor, Occupational Outlook Handbook, 2016-17 Edition, Airline and Commercial Pilots, on the Internet at <http://www.bls.gov/ooh/transportation-and-material-moving/airline-and-commercial-pilots.htm> (visited May 24, 2016).

Publish Date: Thursday, December 17, 2015

U.S. Bureau of Labor Statistics | Office of Occupational Statistics and Employment Projections, PSB Suite 2135, 2 Massachusetts Avenue,  
NE Washington, DC 20212-0001

[www.bls.gov/ooh](http://www.bls.gov/ooh) | Telephone: 1-202-691-5700 | [Contact OOH](#)





Oliver Wyman on Transportation & Logistics

We explore transformative ideas and data trends on transport and travel

Opinions expressed by Forbes Contributors are their own.

LOGISTICS & TRANSPORTATION 1/28/2016 @ 5:20PM | 28,167 views

## Pilot Shortage Threatens To Slow U.S. Airline Growth



Birgit Andersen , Contributor

*By Brian Prentice, Partner, and Philippe Gouel, Principal*

U.S. airlines are in the early stages of a pilot shortage that could boost labor costs and even constrain growth.

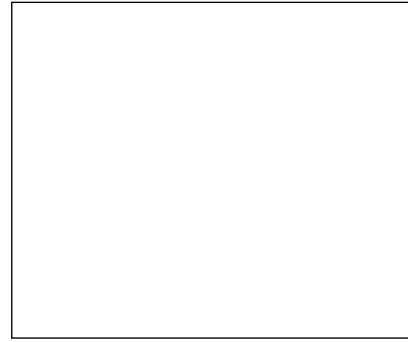
Unless airlines find ways to work with partners to cultivate a pilot pipeline, they could face difficult, even volatile, competition for experienced pilots because the current regulatory and industry situation can only yield about two-thirds of the pilots the U.S. will need in the next 20 years. That could mean constrained airline revenue, higher fares, or both. Kids, get your pilots licenses, because this could be the career of the 2020s and 30s.



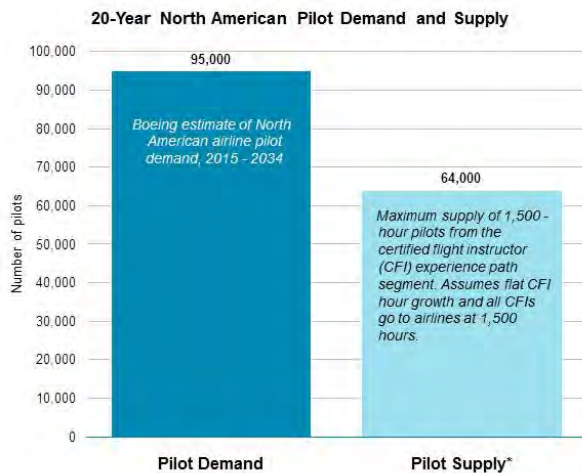
Pilots sit in the cockpit of a VietJet Air aircraft, operated by VietJet Aviation Joint Stock Co., at Noi Bai International Airport in Hanoi, Vietnam, on Sunday, June 1, 2014. VietJet, Vietnam's only privately owned airline, may seek to raise \$400 million to \$500 million in an initial public offering next year as it takes delivery of as many as 100 additional planes. Photographer: Brent Lewin/Bloomberg



The pilot profession is highly regulated to drive a high level of safety, with laws dictating the level of experience and proficiency a pilot must acquire before flying a commercial aircraft, as well as when and how a professional pilot may work. This constrained environment has always made it difficult for the industry to meet the ebbs and flows of demand. New regulations further constrain the availability of new pilots. Now, as demand for air travel grows rapidly (global commercial airline capacity rose more than 6 percent last year, according to [Oliver Wyman's Airline Economic Analysis](#)) many aviation insiders see the number of pilots in training and the future demand for commercial pilots diverging.



Leading airline executives are considering a new approach to the problem by forming partnerships with operators, training providers, and even regulators to shape the pipeline of pilots in training. Some major carriers and large regional airlines are well positioned to exploit these opportunities.



Source: Boeing and Oliver Wyman analysis

© Oliver Wyman

The demand for pilots by U.S. airlines is likely to outstrip supply.

### Pilot Pipeline

Becoming a commercial airline pilot is a time-intensive process that requires academic instruction, flight experience, numerous certifications and, typically, a progression of different flight-related jobs to gain the right experience. In the past, commercial pilots needed at least 250 flight hours, which takes at least six months and can cost up to \$100,000. U.S. pilots have traditionally absorbed these costs themselves, sometimes by combining the training with college degree programs. Prior to August 2013, pilots who had completed this stage of training were eligible to become U.S. commercial airline co-pilots. Outside of the U.S., many international airlines sponsor student pilots and either pay for this training or offer loans with favorable terms associated with future employment at the sponsoring airline.

New regulations introduced in 2013, designed to increase pilot proficiency, mandate that co-pilots working for commercial airlines hold airline transport pilot (ATP) certificates. This typically requires 1,500 flight hours and other experience gained by working at lower-paying pilot jobs. These new regulations make commercial airlines dependent on a set of aviation segments that provide the necessary experience but that are not elastic to growth in demand by the airlines and other career-employment companies. Even a perfectly efficient system could only provide the experience required for two-thirds of the pilots needed in the U.S.

The effect of the new regulations is further compounded by the fact that, according to the U.S. Government Accountability Office, the military, traditionally the largest source of airline pilots, now accounts for only 30 percent of new airline pilots. Further, the supply of military pilots will likely continue to shrink as military branches roll out programs to incentivize pilots to stay longer.

### **Pilot Demand**

As the pilot career pipeline becomes constrained, the commercial airline industry's demand for pilots is rising. [Oliver Wyman's 2016-2026 Global Fleet & MRO Market Forecast](#) expects the number of commercial aircraft in service in the U.S. to rise 7.7 percent during the next 20 years to 8,067. The forecast expects the number of commercial aircraft in the global fleet to rise 40 percent to 34,437 aircraft.

Airlines are adding more airplanes just as a wave of pilots nears retirement and regulations on pilot duty times have tightened. The industry's appetite for new ATP-rated pilots is at an all-time high, and Boeing Co. estimates U.S. airlines will demand about 95,000 pilots in the next 20 years.

Of course, U.S. pilots also fly for international airlines and corporate fractional flight operations, further boosting demand. Europe is expected to need 95,000 pilots, and [Asia](#) will likely need 226,000.

### **Juicing the Pipeline**

Airline operators can follow several philosophies on managing the pilot pipeline. Some airlines may buy their way out and offer higher salaries, incentives, and benefits to pilots. For others this will be too costly and could upend their business. Such carriers must consider strategies to recruit pilots in a more competitive and constrained environment. This could entail developing programs with vocational or collegiate flight schools, developing more formalized feeder programs with regional partners, or financing the next generation of qualified pilots. However, these options are also costly.

In the long term, the industry could work to influence regulations, but this could take years and might not yield a superior paradigm. Carriers will still need to consider what they can offer pilots both in terms of compensation and work rules. Regional carriers, which traditionally offer lower pay rates, may see high attrition as demand from majors grows. Regionals will need to explore alternatives including productivity

improvements, enhanced pilot compensation and collaboration with mainline partners in order to secure their supply of qualified pilots. Major airlines will need to contemplate strategies to protect their pipelines from poaching by competing carriers. Similarly, even with industry standard rates of pay, low-cost carriers may see attrition from the bottom of their seniority lists as pilots pursue more compelling opportunities with majors or international carriers.

The pilot pipeline will adapt to the new marketplace and passivity will not be rewarded. The smart airlines are exploring stronger, scalable relationships within the pipeline, namely with pilot training organizations. These types of relationships could be the key differentiator for airline success.

*Brian Prentice is a partner in Oliver Wyman's aviation practice, and he is based in Dallas. Philippe Gouel is a principal with the practice, and he is based in Chicago.*

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**Training**  
2015 Pilot &  
Technician Outlook

BOEING **EDGE**  
Flight Services



Training

# Pilot & Technician Outlook

As global economies expand and airlines take delivery of tens of thousands of new commercial jetliners over the next 20 years, there is and will continue to be unprecedented demand for personnel to fly and maintain those airplanes.

In support of this tremendous growth, the aviation industry will need to supply more than one million new commercial airline pilots and maintenance technicians between now and 2034.

The 2015 Boeing Pilot & Technician Outlook, a respected industry forecast of personnel demand, projects that 558,000 new commercial airline pilots and 609,000 new maintenance technicians will be needed to fly and maintain the world fleet over the next 20 years.

Meeting this exponential demand will require innovative solutions—focused on new, digital technology—to match the learning requirements of a new generation. The growing diversity of aviation personnel will also require instructors to have cross-cultural and cross-generational skills to engage tomorrow's workforce. Training providers will focus more on enabling airplane operators to gain optimal advantage of the advanced features of the latest generation of airplanes, such as the 787 Dreamliner, 737 MAX, and the 777X.

Although Asia Pacific remains the region with the highest overall demand—40 percent of the world's required pilots and technicians—there has been a significant increase in the expected number of skilled resources required in other parts of the world, such as the Middle East and Latin American markets.





## Training 2015 Pilot Outlook

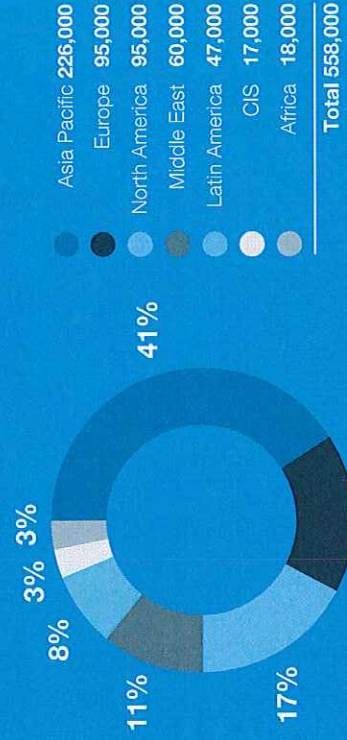
Airlines across the globe are expanding their fleets and flight schedules to meet the global economic expansion. The aviation industry continues to work on addressing these challenges and creating a balanced, sustainable solution to filling the future pilot and technician pipeline.

Regional markets that have relied heavily on recruiting pilots from outside their home locations will increasingly need

a strong foundation for developing and training qualified pilots locally.

Over the next 20 years, the largest projected growth in pilot demand is in the Asia Pacific region, with a requirement for 226,000 new pilots. Europe will require 95,000; North America, 95,000; the Middle East, 60,000; Latin America, 47,000; the Commonwealth of Independent States (CIS), 17,000; and Africa, 18,000.

New Pilots by Region 2015-2034





## Training 2015 Technician Outlook

BROWARD COLLEGE

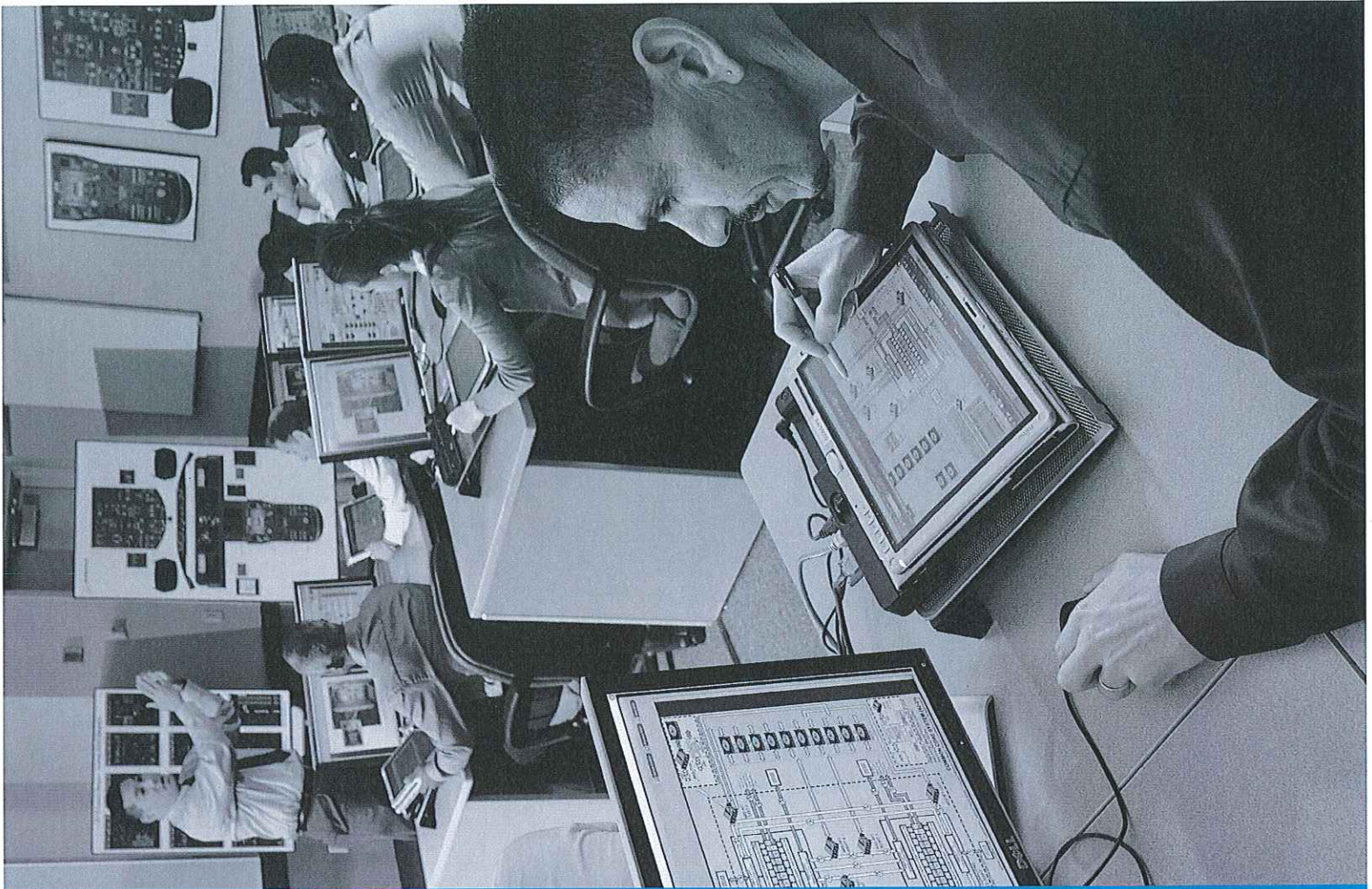
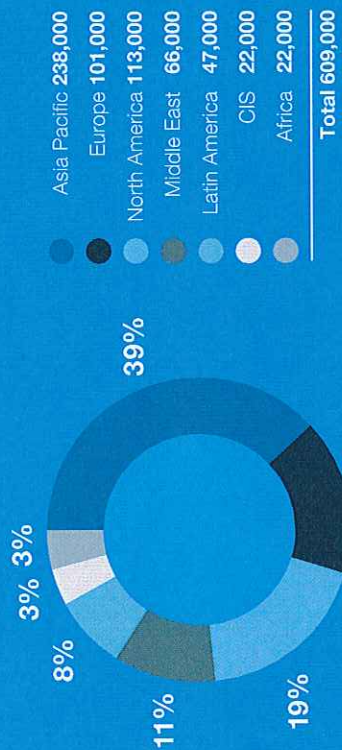
As newer-generation airplanes become more prevalent in worldwide aviation fleets over the next 20 years, airplane reliability will improve, and maintenance check intervals will lengthen. Although this trend will moderate demand growth somewhat, the global need for technicians will remain strong.

The overall global fleet growth—along with an increasing trend in outsourcing maintenance, repair, and overhaul activities to third-party providers in emerging

markets—will drive an increased overall need for qualified technicians sourced from an expanded number of locations.

The need for maintenance personnel is largest in the Asia Pacific region, which will require 238,000 new technical personnel. Airlines in Europe will require 101,000; North America, 113,000; the Middle East, 66,000; Latin America, 47,000; the CIS, 22,000; and Africa, 22,000.

New Technicians by Region 2015-2034







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## FLORIDA JOBS by Occupation

Florida Occupation Code      Title		Employment		2015 - 2023		Total Job Openings*	2015 Median Hourly Wage (\$)**		Education Level
		2015	2023	Growth	Percent Growth		Wage (\$)**	Education Level	
000000	<b>Total, All Occupations</b>	8,634,086	9,733,310	1,119,040	12.7	2,795,787	NA	NA	
110000	<b>Management Occupations</b>	384,229	425,817	42,773	10.8	101,550	NA	NA	
113000	<i>Operations Specialties Managers</i>	55,008	61,011	6,003	10.9	13,868	NA	NA	
113011	Administrative Services Managers	9,441	10,657	1,216	12.9	2,383	48.49	Associate Degree	
113021	Computer and Information Systems Managers	10,864	12,259	1,395	12.8	2,524	62.22	Bachelor's Degree	
113031	Financial Managers	18,991	21,026	2,035	10.7	4,806	56.22	Bachelor's Degree	
113051	Industrial Production Managers	4,417	4,556	139	3.2	768	47.51	Associate Degree	
113061	Purchasing Managers	1,992	2,165	173	8.7	511	54.30	Associate Degree	
113071	<b>Transportation, Storage, and Distribution Managers</b>	<b>3,789</b>	<b>4,083</b>	<b>294</b>	<b>7.8</b>	<b>973</b>	<b>43.58</b>	<b>Associate Degree</b>	
113111	Compensation and Benefits Managers	514	554	40	7.8	147	50.28	Associate Degree	
113121	Human Resources Managers	3,909	4,485	576	14.7	1,393	49.79	Bachelor's Degree	
113131	Training and Development Managers	1,091	1,226	135	12.4	363	47.36	Associate Degree	

## FLORIDA JOBS by Occupation

Florida Occupation Code      Title		Employment		2015 - 2023		Total Job Openings*	2015 Median Hourly Wage (\$)**		Education Level
		2015	2023	Growth	Percent Growth		Wage (\$)**	Education Level	
530000	<b>Transportation and Material-Moving Occupations</b>	496,783	548,309	51,588	10.4	148,856	NA	NA	
531000	<i>Supervisors, Transportation and Material Moving Workers</i>	17,446	19,260	1,814	10.4	5,566	NA	NA	
531011	Aircraft Cargo Handling Supervisors	318	332	14	4.4	82	23.35	Associate Degree	
531021	First-Line Superv. Helpers, Laborers & Material-Movers, Hand	8,035	8,852	817	10.2	2,545	22.33	High School Diploma	
531031	First-Line Superv. of Material-Moving Vehicle Operators	9,093	10,076	983	10.8	2,939	26.55	Postsecondary Vocational	
532000	<i>Air Transportation Workers</i>	18,092	19,338	1,246	6.9	4,918	NA	NA	
532011	Airline Pilots, Copilots, and Flight Engineers	4,539	4,728	189	4.2	1,210	71.39	Associate Degree	
532012	Commercial Pilots	4,075	4,630	555	13.6	1,472	42.62	Postsecondary Vocational	
532021	Air Traffic Controllers	1,903	2,043	140	7.4	810	60.33	Postsecondary Vocational	
532022	Airfield Operations Specialists	407	442	35	8.6	178	24.81	Associate Degree	
532031	Flight Attendants	7,168	7,495	327	4.6	1,248	28.87	High School Diploma	

\* Includes openings due to growth and replacement needs

\*\* Hourly wages for teaching occupations were calculated using a 40-hour work week for 9½ months per year.

NA - Not available for this occupation

## Highest-Paying Bachelor's Degree Level Occupations Florida Statewide 2015

Rank	Occupation Title	2015 Annual Median Wage
1	Chief Executives***	\$194,942
2	Airline Pilots, Copilots, and Flight Engineers**	\$142,784
3	Computer and Information Systems Managers***	\$129,425
4	Petroleum Engineers	\$124,208
5	Sales Managers**	\$119,718
6	Financial Managers***	\$116,950
7	Engineering Managers***	\$116,280
8	Purchasing Managers***	\$112,949
9	Marketing Managers***	\$109,456
10	General and Operations Managers***	\$108,100
11	Natural Sciences Managers***	\$106,835
12	Nuclear Engineers	\$106,027
13	Public Relations Managers***	\$105,691
14	Compensation and Benefits Managers***	\$104,596
15	Human Resources Managers***	\$103,570
16	Administrative Services Managers**	\$100,843
17	Aerospace Engineers	\$100,494
18	Advertising and Promotions Managers**	\$100,160
19	Industrial Production Managers***	\$98,822
20	Sales Engineers	\$98,790
21	Training and Development Managers***	\$98,522
22	Computer Hardware Engineers	\$97,653
23	Medical and Health Services Managers**	\$97,602
24	Atmospheric and Space Scientists	\$92,769
25	Electronics Engineers, Except Computer	\$92,197
26	Software Developers, Systems Software	\$92,149
27	Materials Engineers	\$88,167
28	Actuaries	\$87,326
29	Broadcast News Analysts	\$86,884
30	Software Developers, Applications	\$84,461
31	Electrical Engineers	\$84,334
32	Emergency Management Directors***	\$83,869
33	Cartographers and Photogrammetrists	\$83,763
34	Marine Engineers and Naval Architects	\$83,241
35	Materials Scientists	\$81,933
36	Computer Systems Analysts	\$81,835
37	Personal Financial Advisors	\$81,653
38	Mechanical Engineers	\$81,502
39	Civil Engineers	\$81,421
40	Information Security Analysts**	\$81,149
41	Database Administrators**	\$80,873
42	Conservation Scientists	\$80,379
43	Art Directors***	\$79,607
44	Network and Computer Systems Architects and Admins.	\$78,123
45	Construction Managers	\$78,085
46	Hydrologists	\$77,237
47	Financial Examiners	\$76,392
48	Geoscientists, Except Hydrologists and Geographers	\$75,258

## Highest-Paying Bachelor's Degree Level Occupations Florida Statewide 2015

<b>Rank</b>	<b>Occupation Title</b>	<b>2015 Annual Median Wage</b>
49	Computer Programmers	\$73,979
50	Microbiologists	\$73,045

Source: Florida Department of Economic Opportunity, Bureau of Labor Market Statistics, Occupational Employment Statistics and Wages Program.  
Released June 2015.

BLS education levels used for all occupations. \*\*Requires experience of less than 5 years, \*\*\*Requires experience of 5 years or more.

## 2016-17 Regional Demand Occupations List

Sorted by Occupational Title

Workforce Development Area 22 - Broward County

Workforce Estimating Conference Selection Criteria:

- 1 FLDOE Training Code 3 (PSAV Certificate), 4 (Community College Credit/Degree), or 5 (Bachelor's Degree)
- 2 25 annual openings and positive growth
- 3 Mean Wage of \$14.59/hour and Entry Wage of \$11.86/hour
- 4 High Skill/High Wage (HSHW) Occupations:  
Mean Wage of \$22.85/hour and Entry Wage of \$14.59/hour

SOC Code†	HSHW††	Occupational Title†	Annual	Annual	2015 Hourly Wage		FLDOE	In EFI	Data
			Percent Growth	Openings	Mean	Entry	Training Code	Targeted Industry?	Source†††
132011	HSHW	Accountants and Auditors	1.64	386	34.07	21.55	5	Yes	R
113011	HSHW	Administrative Services Managers	1.71	27	51.09	32.35	4	Yes	R
413011	HSHW	Advertising Sales Agents	0.66	66	29.61	14.59	3	Yes	R
493011	HSHW	Aircraft Mechanics and Service Technicians	0.93	34	26.39	16.88	3	Yes	R
532011	HSHW	Airline Pilots, Copilots, and Flight Engineers	NR	NR	55.89	27.38	4	Yes	R
493021		Automotive Body and Related Repairers	1.17	32	18.94	12.18	3	No	R
493023		Automotive Service Technicians and Mechanics	1.11	160	20.31	12.29	3	No	R
433031		Bookkeeping, Accounting, and Auditing Clerks	1.59	2,641	17.07	11.88	4	Yes	S
472021		Brickmasons and Blockmasons	5.68	255	16.83	13.10	3	No	S
493031	HSHW	Bus and Truck Mechanics and Diesel Engine Specialists	1.33	31	25.29	17.91	3	Yes	R
131199	HSHW	Business Operations Specialists, All Other	1.75	185	32.42	17.37	4	No	R
292031		Cardiovascular Technologists and Technicians	3.10	199	22.92	13.10	3	Yes	S
435011	HSHW	Cargo and Freight Agents	0.87	28	23.02	15.26	3	Yes	R
472031		Carpenters	2.64	225	19.10	12.79	3	No	R
472051		Cement Masons and Concrete Finishers	4.63	728	16.07	11.86	3	No	S
111011	HSHW	Chief Executives	1.01	62	102.96	57.93	5	Yes	R
172051	HSHW	Civil Engineers	2.40	56	38.83	25.07	5	Yes	R
131031	HSHW	Claims Adjusters, Examiners, and Investigators	0.87	71	30.05	19.33	3	Yes	R
212011		Clergy	1.81	27	21.84	12.41	5	No	R
532012	HSHW	Commercial Pilots	1.70	184	47.87	23.67	3	Yes	S
131041	HSHW	Compliance Officers, Exc. Safety, Agri, Constr & Transp.	0.58	35	32.75	21.07	3	No	R
113021	HSHW	Computer and Information Systems Managers	1.63	36	68.60	45.04	5	Yes	R
151143	HSHW	Computer Network Architects	1.47	51	36.43	22.64	3	Yes	R
151152	HSHW	Computer Network Support Specialists	0.74	27	27.26	16.59	3	Yes	R
151131	HSHW	Computer Programmers	0.61	60	34.12	20.63	3	Yes	R
151121	HSHW	Computer Systems Analysts	2.37	82	38.33	24.44	4	Yes	R
151151		Computer User Support Specialists	2.04	107	21.79	13.64	3	Yes	R
474011	HSHW	Construction and Building Inspectors	1.96	271	27.78	19.00	3	No	S
119021	HSHW	Construction Managers	2.28	226	40.82	23.87	4	No	R
333012	HSHW	Correctional Officers and Jailers	1.28	86	29.63	21.99	3	No	R
131051	HSHW	Cost Estimators	3.63	101	31.67	20.82	4	No	R
537021	HSHW	Crane and Tower Operators	3.67	160	23.76	17.58	3	No	S
151141	HSHW	Database Administrators	1.60	238	39.04	25.40	4	Yes	S
319091		Dental Assistants	1.92	62	18.06	13.75	3	Yes	R
292021	HSHW	Dental Hygienists	2.69	71	31.77	24.21	4	Yes	R
292032	HSHW	Diagnostic Medical Sonographers	4.00	27	31.76	26.17	3	Yes	R
499051	HSHW	Electrical Power-Line Installers and Repairers	1.57	388	25.72	17.38	3	No	S
472111		Electricians	3.23	167	20.46	15.31	3	No	R
252021	HSHW	Elementary School Teachers, Except Special Education	2.58	272	31.19	24.75	5	No	R
119041	HSHW	Engineering Managers	2.31	28	54.19	36.71	5	Yes	R
172081	HSHW	Environmental Engineers	NR	NR	34.91	21.19	5	Yes	R
436011	HSHW	Executive Secretaries and Administrative Assistants	0.34	81	24.38	16.26	3	Yes	R
132051	HSHW	Financial Analysts	1.37	38	38.30	24.54	5	Yes	R
113031	HSHW	Financial Managers	1.17	62	64.46	37.58	5	Yes	R
332011	HSHW	Fire Fighters	1.34	85	31.37	23.65	3	No	R
371012		First-Line Superv. Landscaping & Groundskeeping Workers	1.72	45	20.18	14.63	3	No	R
471011	HSHW	First-Line Superv. of Construction and Extraction Workers	3.30	160	31.25	20.95	4	No	R
371011		First-Line Superv. of Housekeeping & Janitorial Workers	1.78	556	17.41	11.67	3	No	S
531031	HSHW	First-Line Superv. of Material-Moving Vehicle Operators	1.30	37	28.63	18.09	3	Yes	R

# 2016-17 Regional Demand Occupations List

Sorted by Occupational Title

Workforce Development Area 22 - Broward County

Workforce Estimating Conference Selection Criteria:

- 1 FLDOE Training Code 3 (PSAV Certificate), 4 (Community College Credit/Degree), or 5 (Bachelor's Degree)
- 2 25 annual openings and positive growth
- 3 Mean Wage of \$14.59/hour and Entry Wage of \$11.86/hour
- 4 High Skill/High Wage (HSHW) Occupations:  
Mean Wage of \$22.85/hour and Entry Wage of \$14.59/hour

SOC Code†	HSHW††	Occupational Title†	Annual		2015 Hourly Wage		FLDOE Training Code	In EFI Targeted Industry?	Data Source†††
			Percent Growth	Annual Openings	Mean	Entry			
491011	HSHW	First-Line Superv. of Mechanics, Installers, and Repairers	1.39	108	30.44	19.63	3	No	R
431011	HSHW	First-Line Superv. of Office and Admin. Support Workers	1.39	345	25.65	17.02	4	Yes	R
511011	HSHW	First-Line Superv. of Production and Operating Workers	0.45	44	26.42	18.69	3	Yes	R
411012	HSHW	First-Line Supervisors of Non-Retail Sales Workers	0.18	66	44.51	22.10	4	Yes	R
391021		First-Line Supervisors of Personal Service Workers	1.17	43	19.15	11.89	3	No	R
411011		First-Line Supervisors of Retail Sales Workers	0.81	301	22.52	14.62	3	No	R
111021	HSHW	General and Operations Managers	1.51	274	65.30	32.11	4	Yes	R
271024		Graphic Designers	1.07	62	22.52	14.99	4	Yes	R
292099		Health Technologists and Technicians, All Other	2.37	240	19.87	12.77	3	Yes	S
499021		Heating, A.C., and Refrigeration Mechanics and Installers	3.15	145	21.51	14.93	3	No	R
499031		Home Appliance Repairers	0.58	26	15.38	11.93	3	No	R
131071	HSHW	Human Resources Specialists	1.15	89	28.08	17.26	5	No	R
499041		Industrial Machinery Mechanics	2.97	57	21.53	14.94	3	Yes	R
537051		Industrial Truck and Tractor Operators	0.27	45	16.94	12.04	3	Yes	R
151122	HSHW	Information Security Analysts	3.63	202	40.54	25.67	3	Yes	S
413021	HSHW	Insurance Sales Agents	1.27	250	30.97	17.43	3	Yes	R
271025		Interior Designers	2.09	36	26.14	14.15	4	Yes	R
252012	HSHW	Kindergarten Teachers, Except Special Education	2.55	58	29.70	20.89	5	No	R
436012		Legal Secretaries	0.51	33	20.46	14.64	3	Yes	R
254031		Library Technicians	1.74	184	17.21	11.98	4	No	S
292061		Licensed Practical and Licensed Vocational Nurses	1.91	120	21.28	17.10	3	Yes	R
434131		Loan Interviewers and Clerks	1.44	25	17.22	13.14	3	Yes	R
132072	HSHW	Loan Officers	1.34	43	40.12	21.72	4	Yes	R
131111	HSHW	Management Analysts	2.65	203	36.45	20.47	5	Yes	R
131161	HSHW	Market Research Analysts and Marketing Specialists	3.49	111	28.43	16.22	5	Yes	R
112021	HSHW	Marketing Managers	2.10	28	58.45	33.85	5	Yes	R
319011		Massage Therapists	2.30	46	19.02	13.28	3	No	R
292012		Medical and Clinical Laboratory Technicians	3.02	371	16.78	11.58	4	Yes	S
292011	HSHW	Medical and Clinical Laboratory Technologists	1.03	44	30.33	25.76	4	Yes	R
119111	HSHW	Medical and Health Services Managers	1.93	49	59.47	38.40	5	Yes	R
319092		Medical Assistants	2.55	170	15.23	12.48	3	Yes	R
499062	HSHW	Medical Equipment Repairers	3.02	35	28.20	17.59	3	Yes	R
292071		Medical Records and Health Information Technicians	2.20	456	18.53	12.26	4	Yes	S
436013		Medical Secretaries	2.77	82	15.56	12.50	3	Yes	R
131121	HSHW	Meeting and Convention Planners	4.35	38	25.44	18.51	4	No	R
252022	HSHW	Middle School Teachers, Exc. Special & Voc. Education	2.58	151	30.94	24.02	5	No	R
493042		Mobile Heavy Equipment Mechanics, Except Engines	1.76	260	21.15	15.19	3	Yes	S
151142	HSHW	Network and Computer Systems Architects and Admins.	1.33	42	39.54	25.94	4	Yes	R
472073		Operating Engineers/Construction Equipment Operators	3.80	44	19.02	15.44	3	No	R
292081		Opticians, Dispensing	1.85	40	21.57	15.29	4	Yes	R
472141		Painters, Construction and Maintenance	2.59	90	17.57	12.61	3	No	R
232011	HSHW	Paralegals and Legal Assistants	3.07	137	23.56	16.46	3	Yes	R
132052	HSHW	Personal Financial Advisors	NR	NR	41.73	21.08	5	Yes	R
372021		Pest Control Workers	NR	NR	16.01	12.11	3	No	R
373012		Pesticide Handlers, Sprayers, & Applicators, Vegetation	1.84	190	16.10	11.59	4	No	S
312021	HSHW	Physical Therapist Assistants	3.17	28	29.48	23.45	4	Yes	R
291071	HSHW	Physician Assistants	3.87	29	50.42	37.86	5	Yes	R
472151		Pipelayers	2.47	186	17.40	12.83	3	No	S
472152		Plumbers, Pipefitters, and Steamfitters	3.39	118	21.92	15.43	3	No	R

## 2016-17 Regional Demand Occupations List

**Sorted by Occupational Title**

Workforce Development Area 22 - Broward County

Workforce Estimating Conference Selection Criteria:

- 1 FLDOE Training Code 3 (PSAV Certificate), 4 (Community College Credit/Degree), or 5 (Bachelor's Degree)
- 2 25 annual openings and positive growth
- 3 Mean Wage of \$14.59/hour and Entry Wage of \$11.86/hour
- 4 High Skill/High Wage (HSHW) Occupations:  
Mean Wage of \$22.85/hour and Entry Wage of \$14.59/hour

SOC Code†	HSHW††	Occupational Title†	Annual	Annual	2015 Hourly Wage		FLDOE	In EFI	Data
			Percent		Openings	Mean			
			Growth				Code	Industry?	
333051	HSHW	Police and Sheriff's Patrol Officers	1.29	204	35.05	25.28	3	No	R
435031	HSHW	Police, Fire, and Ambulance Dispatchers	1.15	28	23.31	17.06	3	No	R
339021		Private Detectives and Investigators	NR	NR	21.55	19.09	4	No	R
272012	HSHW	Producers and Directors	0.46	25	38.73	19.31	5	No	R
119141	HSHW	Property, Real Estate & Community Association Managers	1.14	139	30.17	18.47	4	No	R
273031	HSHW	Public Relations Specialists	1.61	31	30.13	17.26	5	Yes	R
131023	HSHW	Purchasing Agents, Except Farm Products & Trade	0.82	34	25.77	18.06	4	Yes	R
292034	HSHW	Radiologic Technologists	2.06	46	24.88	17.27	3	Yes	R
419021		Real Estate Brokers	1.84	183	37.36	12.76	3	No	S
419022		Real Estate Sales Agents	1.70	140	30.31	12.11	3	No	R
291141	HSHW	Registered Nurses	1.57	519	34.12	26.13	4	Yes	R
291126	HSHW	Respiratory Therapists	1.83	243	26.39	20.72	4	Yes	S
472181		Roofers	2.35	74	16.82	12.50	3	No	R
112022	HSHW	Sales Managers	1.23	59	65.80	35.83	5	Yes	R
414011	HSHW	Sales Representatives, Wholesale & Mfg, Tech. & Sci. Prod.	0.32	83	44.36	25.37	3	Yes	R
414012		Sales Representatives, Wholesale and Manufacturing, Other	0.85	371	28.87	13.45	3	Yes	R
252031	HSHW	Secondary School Teachers, Exc. Special and Voc. Ed.	1.91	197	33.62	25.79	5	No	R
413031	HSHW	Securities and Financial Services Sales Agents	0.52	55	39.49	16.24	5	Yes	R
492098		Security and Fire Alarm Systems Installers	2.19	47	18.95	12.61	3	No	R
472211		Sheet Metal Workers	2.99	31	16.67	12.82	3	No	R
119151	HSHW	Social and Community Service Managers	1.98	155	36.45	24.14	4	No	S
211093		Social and Human Service Assistants	1.26	54	17.31	12.74	3	No	R
151132	HSHW	Software Developers, Applications	2.16	75	43.18	28.41	4	Yes	R
151133	HSHW	Software Developers, Systems Software	1.84	38	41.88	30.24	5	Yes	R
472221		Structural Iron and Steel Workers	3.64	199	19.53	12.38	3	No	S
211011		Substance Abuse and Behavioral Disorder Counselors	2.77	28	22.45	13.82	5	No	R
292055		Surgical Technologists	2.84	32	20.72	15.82	3	Yes	R
173031		Surveying and Mapping Technicians	1.98	194	18.49	12.34	3	Yes	S
492022	HSHW	Telecommunications Equipment Installers and Repairers	0.94	67	26.07	16.74	3	Yes	R
232093	HSHW	Title Examiners, Abstractors, and Searchers	1.71	41	23.23	16.50	3	Yes	R
131151	HSHW	Training and Development Specialists	2.34	53	31.07	17.33	5	Yes	R
339093		Transportation Security Screeners	0.69	30	18.46	15.31	3	No	R
533032		Truck Drivers, Heavy and Tractor-Trailer	1.92	184	18.11	12.90	3	Yes	R
251194	HSHW	Vocational Education Teachers, Postsecondary	2.39	26	27.78	17.11	4	No	R
151134	HSHW	Web Developers	1.97	39	27.41	16.55	3	Yes	R
514121		Welders, Cutters, Solderers, and Brazers	0.80	45	19.83	14.09	3	Yes	R

†SOC Code and Occupational Title refer to Standard Occupational Classification codes and titles.

††HSHW = High Skill/High Wage.

†††Data Source:

R = Meets regional wage and openings criteria based on state Labor Market Statistics employer survey data. Regional data are shown.

S = Meets statewide wage and openings criteria based on state Labor Market Statistics employer survey data. Statewide data are shown.

NR = Not releasable.

EFI - Enterprise Florida, Inc.





MENU



# Aviation & Aerospace

0

why are so many  
**aviation & aerospace**  
companies  
locating in  
greater  
**fort lauderdale?**

**aviation & aerospace programs**  
**degrees**

greater  
fort lauderdale  
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state income tax

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## Why are so many

# aviation & aerospace companies locating in Greater Fort Lauderdale?

- **Aviation & aerospace programs and degrees provide a continuous graduating talent available for recruitment**
- **More than 46,000 aviation workers are employed in the region**
- **40 colleges and universities with over 300,000 students provide a large diverse talent pool for numerous occupations**
- **10 airports including 3 international and 7 private**
- **Zero state income tax**
- **Florida is ranked 1st in the nation for aerospace manufacturing attractiveness**
- **Florida is ranked 2nd in the nation for the number of aviation, aerospace and space establishments**

**Greater Fort Lauderdale's aviation industry is a multibillion-dollar sector,** including airlines, general aviation, airports, airframe and engine manufacturers, component parts suppliers, and allied industries such as banking and insurance, and government agencies.

Its hub is Fort Lauderdale-Hollywood International Airport (FLL), which has an annual economic impact of more than \$13.2 billion. Over the decades, the airport has grown into a major transportation complex that now provides more than 139,000 direct and indirect jobs.

## **Leading Greater Fort Lauderdale Based Aviation Companies include:**

AeroTurbine, Banyan Air, Embraer, CTS, HEICO Corporation, GA Telesis, JetBlue, JetScape, Kellstrom Defense Aerospace, National Jets, Propulsion Technologies International, and Spirit Airlines

## **Tax exemptions on Aviation include:**

### **Maintenance or Repair of Aircraft**

The amount charged customers for labor associated with the maintenance or repair of:

- Fixed wing aircraft with a maximum certified takeoff weight of more than 15,000 pounds; and,
- Rotary wing aircraft (e.g., helicopters) with a maximum certified takeoff weight of more

than 10,000 pounds is exempt from sales and use tax.

### **Equipment Used in Aircraft Repair or Maintenance**

The sale of equipment used to maintain or repair fixed wing aircraft and rotary wing aircraft is exempt from sales and use tax when the equipment:

- Includes replacement engines, parts, and/or equipment used to maintain or repair the aircraft; and,
- Is used on an aircraft with a maximum certified takeoff weight of 15,000 pounds, OR a rotary wing aircraft with a maximum certified takeoff weight of more than 10,300 pounds; and,
- Is installed on aircraft maintained or repaired in Florida.

### **Fixed Wing Aircraft Sales or Leases**

An exemption from sales and use tax applies to the sale or lease of fixed wing aircraft:

- Having a maximum certified takeoff weight of more than 15,000 pounds; and,
- Used by a "common carrier," as defined in Federal Aviation Administration regulations (Title 14, chapter I, part 128 or 129, Code of Federal Regulations).

The taxable status of aircraft leased by qualifying common carriers prior to May 15, 1998, is based on the character of the lease as follows:

- Operating Lease: If the lease contract requires periodic lease payments, any lease payment contractually required to be paid on or after May 15, 1998, is exempt from Florida's sales and use tax.
- Capital or Lease Purchase Lease: Lease payments arising from a capital or lease purchase lease executed before May 15, 1998, are subject to sales tax.

**For aviation and aerospace business location and expansion information, please contact the Alliance's aviation expert, [Pierre Taschereau](mailto:ptaschereau@gflalliance.org) at 954-627-0128 or via email at [ptaschereau@gflalliance.org](mailto:ptaschereau@gflalliance.org).**

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## Delta Pilot Basics

It's time for your pre-flight check. Delta Air Lines is looking for pilot candidates who meet our high standards of aviator skills, safety, professionalism, and customer focus. If you are interested in joining our team of professional pilots, you may apply or update your existing application via [AirlineApps.com](http://AirlineApps.com).

### General Requirements

- At least 23 years of age.
- Graduate of a four-year degree program from a college or university accredited by a U.S. Dept. of Education recognized accrediting organization.
  - Degrees obtained from a non-U.S. institution must be evaluated for equivalency to U.S. degrees by a member organization of the National Association of Credential Evaluation Services (NACES).
- Current passport or other travel documents enabling the bearer to freely exit and re-enter the U.S. (multiple reentry status) and be legally eligible to work in the U.S. (possess proper working documents).

### FAA Requirements

- FAA commercial fixed-wing pilot license with an instrument rating.
- Current FAA First Class Medical Certificate.
- Meets ALL minimum FAA ATP requirements including successful completion of the ATP written exam.

### Flight Time Requirements

- Minimum of 1,500 hours of total documented flight time.
- Minimum of 1,000 hours of fixed wing turboprop or turbofan time.
- Minimum of 50 hours of fixed wing multi-engine time.

When evaluating the flight time of applicants meeting the basic qualifications, consideration will be given to, among other things, quality, quantity, recency, and verifiability of training; complexity of aircraft flown; types of flight operations; and hours flown as PIC in turbine powered aircraft.

### Other Requirements

- Applicants invited to interview must provide appropriate documentation of all flight hours and college transcripts.
- FCC Radiotelephone Operator's Permit (RP).
- DOT required pre-employment drug test.
- TSA required fingerprint based Criminal History Records Check and a Delta background check.

Applications for employment as a Delta pilot must be submitted through [AirlineApps.com](http://AirlineApps.com). Applications for Delta pilot positions may be submitted free of charge, though a fee may be charged if you wish to join [AirlineApps](http://AirlineApps.com) as a member for added features. If you are already a member of the [AirlineApps](http://AirlineApps.com) system, [sign in to your account](#) and add Delta to your target listing.

New users can [create an account](#) to begin the application process.

[→ Apply To A Pilot Position](#)

## GENERAL QUESTIONS

**+ I'm a pilot and would like to apply at JetBlue. Tell me about the process.**

**+ Where in your network are pilot jobs located?**

**+ I'm a JetBlue pilot and I'd like to offer a reference to a fellow pilot applying to the company. How do I do it?**

**+ I've applied before but haven't been invited to an interview. Should I apply again in the future or will you keep my resume on file?**

**+ What are JetBlue's minimum experience and qualifications for pilot hiring?**

**+ What are JetBlue's preferred qualifications for pilot hiring?**

- Greater than 1,000 hours turbine PIC
- Greater than 1,000 hours in more sophisticated aircraft utilizing Electronic Flight Instrument Systems (EFIS), Flight Management Systems (FMS)
- Recency of experience (Greater than 200 hours within the last 12 months)

---

## UNIVERSITY GATEWAY PROGRAM

**+ Who do I speak with to apply?**

**+ How are students selected to enter the University Gateway Program?**

**+ Who can I turn to if I have questions or need help during the Program?**

**+ What types of things do I need to accomplish in the University Gateway Program?**

**+ How long is the University Gateway Program and what happens during each stage of the Program?**

**+ Am I guaranteed a job at JetBlue if I enroll in the University Gateway Program?**



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## Pilot positions

Thank you for your interest in United Airlines.

At United, we recognize that one of our greatest assets is our people. The rich diversity of ideas, experiences, cultures and lifestyles represented by United employees make it possible for us to give the best possible service to customers around the world. We offer everything you need to build the career you have always wanted. Your search for a great place to work ends here.

We are currently reviewing applications for first officer positions. Please submit your application at [AirlineApps.com](http://AirlineApps.com).

### Overview

A United pilot is a member of the flight crew who is responsible for the safe, comfortable, on-time and efficient operation of the aircraft. A pilot flying as captain is the pilot-in-command and the final decision-making authority regarding the operation of the aircraft, although it is the responsibility of the first officer to contribute to the decision-making process. The captain represents United as the onsite leader responsible for the safety and welfare of the crew and passengers, while also promoting a favorable image of United in accordance with company policies.

### Responsibilities of all United pilots

- Correctly assess the current and anticipated environment, and identify and anticipate operational threats or errors
- Exercise responsibilities in a manner that promotes teamwork, professionalism and mentorship
- Incorporate relevant information, develop operational strategies and choose the best course of action consistent with safe, reliable and efficient operation of the aircraft
- Exchange information, ideas and instructions in a timely manner
- Actively verify aircraft systems, position and configuration, and crewmember actions, and resolve inconsistency or uncertainty
- Effectively manage tasks to optimize overall performance
- Select appropriate level of automation for the situation and for every automation status
- Exercise sound judgment in the safe and efficient operation of the flight
- Operate in accordance with the Federal Aviation Regulations and company policies

In addition, the captain:

- Advises and mentors the first officer in accordance with company policy and procedures
- Acts as the inflight security coordinator
- Provides final decision-making authority as to the operation of the aircraft

In addition, the first officer:

- Acts as second-in-command in the operation of the aircraft
- Assumes the role of pilot-in-command should the captain become incapacitated

### Minimum qualifications

Certification requirements:

- Unrestricted FAA Airline Transport Pilot (ATP) certificate with airplane multiengine class rating
- Current FAA first-class medical certificate
- FCC Restricted Radiotelephone Operator Permit (RR)

Flight time requirement:

- Minimum of 1,000 hours of fixed-wing turbine time

General requirements:

- Current, valid passport
- Legal right to work in the United States
- High school diploma or GED equivalent
- Bachelor's degree from accredited college or university is preferred
- Reliable, punctual attendance is an essential function of the position

We appreciate your interest and we encourage you to frequently check back with us for updates on our hiring needs.

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# Pilots

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## Fly the Plane

### Southwest Airlines Pilot Application Requirements

Certificates/ Ratings: U.S. FAA Airline Transport Pilot Certificate. Unrestricted U.S. Type Rating on a B-737 not required for interview, but required for employment<sup>1</sup>. "B-737 CIRC.APCH.-VMC ONLY" limitation is accepted.

Age: Must be at least 23 years of age.

Flight Experience: 2,500 hours total or 1,500 hours Turbine total. Additionally, a minimum of 1,000 hours in Turbine aircraft as the Pilot in Command is required<sup>2</sup>. Southwest considers only Pilot time in fixed-wing aircraft. This specifically excludes simulator, WSO, RIO, FE, NAV, EWO, etc. NO other time is counted.<sup>3</sup>

Currency: Experience must include actively flying two of the last five years.

Medical: Must possess a current FAA Class 1 Medical Certificate. Must pass FAA mandated Drug Test.

Authorization to work in the United States: Must have established authorization to work in the United States.

Driver's License: Must possess a valid United States Driver's License.

Education: graduation from accredited, four-year college preferred.

Letters of Recommendation: At least three letters from any individuals who can attest to the pilot's flying skills, by having observed him/her over a sustained period of time.

Pilot base locations: Dallas, Houston, Phoenix, Orlando, Chicago, Baltimore, Oakland, and Las Vegas

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Southwest Airlines is an equal opportunity employer.

<sup>1</sup> A Candidate may apply without a B-737 Type Rating. If a candidate interviews and successfully completes the entire selection process, he/she has six months from the date to obtain a B-737 Type Rating to be eligible for hire.

<sup>2</sup> PIC for this purpose is defined as Captain/Aircraft Commander of record, not simply the sole manipulator of the controls. For military personnel, Southwest Airlines will allow flight time logged as "Pilot in Command" (PIC) only if you are the Captain/Aircraft Commander, Evaluator, or Instructor Pilot. Primary time will only be considered PIC on a specific aircraft after an individual upgrades to Aircraft Commander in the appropriate aircraft. Time logged as "Other Time" will not be considered.

<sup>3</sup> Military Conversion: When converting taxi time a conversion factor of .3 or 18 minutes, per leg/sortie should be used. These guidelines are imposed by Southwest Airlines for the purpose of standardizing the calculation of flight time.

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Posted On **04/13/2016**

## Fleet Manager - FLL

FT LAUDERDALE, FL, US

Worker Category : **Regular Full-Time**

### Fleet Manager

The Fleet Manager reports directly to the Chief Pilot/Director of Flight Standards.

#### Summary:

The Fleet Manager leads his fleet. He is responsible for the safety, legality, and efficiency of aircraft operating procedures and training programs. The Fleet Manager is responsible for developing and maintaining the manual system used to operate the fleet, and the policies and procedures used to train flight crew team members.

#### Responsibilities:

- Establishing and maintaining safe, efficient and standard aircraft operating procedures for his fleet
- Establishing and maintaining safe, efficient and compliant flight crew training programs for his fleet.
- Taking the best possible care of cockpit crew members in the training program and on the line.
- Compliance with Federal Aviation Regulations as they apply to the fleet.
- Managing the budget targets.
- Establishing and maintaining safe, standard and efficient procedures in fleet AOM/CFM, QRH, MEL, navigation Manuals (if applicable), Operations Weight and Balance manual, training programs and other required operational manuals.
- Supervising Line Check Airmen.
- Evaluating line and training operations for unique or abnormal conditions and situation that may require altering the training program or implementing abnormal training requirements.
- Assisting the Chief Pilot in the selection of light deck personnel.
- Assisting the Director of Flight Standards and Chief Pilot in the establishment of standard operating procedures.
- Providing input for operational Briefing Packages designed to enhance the a safe and efficient conduct of unique flight operations for fleet aircraft.
- Assisting the Chief Pilot's office on operation issues as a fleet Subject Matter Expert.
- Assisting the Director of Flight Standards and the Chief Pilot to ensure compliance with Company policies and procedures and applicable CFR's/FARs.
- Holding an Air Transport Pilot (ATP) certificate with experience as a Pilot in Command and Check Airman in operations under CFR 121.
- Maintaining currency on his fleet aircraft.
- Exercising all the privileges of the Airline Transport Pilot License.
- Assisting the Director of Flight Operations and the Chief Pilot in matters pertaining to regulatory compliance and FAA certification.

#### MINIMUM QUALIFICATIONS

Four year college degree or equivalent work experience  
 Two years of airline operations experience  
 Knowledge of Company policies, procedures, standards and Microsoft Office Suite.



Requisition ID **1202**

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## Aircraft Analyst

RPC - Miami, FL

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- Analyst – Aircraft Records
- Duration: 6-12 months
- Locations: Miami International Airport
- Pay rate is 20.00 an hour

Position Purpose: Serve as a team member on the Aircraft Records Department, responsible for the processing and retention of all aircraft maintenance records and service bulletin entry for new aircraft requirements.

Principal Duties and Responsibilities:

- Learn and understand the policies and procedures of the Aircraft Records department
- Process and review maintenance records to ensure accuracy and completeness in the time control system
- Identify and obtain corrections to discrepant records
- Work directly with Engineering, Quality Assurance, Maintenance and other internal groups when records are needed.
- Research and resolve unmatched aircraft data
- Distribute and retain documents as required by FAA policy
- Sets up/install inspections in computer system
- Research and update engine service bulletin information in regards to new aircraft delivery.
- Complete other assignments and projects as directed by the Coordinator, Supervisor or Manager

Qualifications:

- Bachelor's degree (4 year degree) or equivalent experience/training (preferred)
- Aviation maintenance experience/knowledge (especially aircraft component and FAA Airworthiness Directives)
- Effective communication skills, including the ability to read and follow directions.
- Demonstrated analytical and problem solving skills; high level of attention to detail; outstanding organizational skills
- 10-key by touch and typing 50 wpm
- Demonstrate sound decision-making ability
- Ability to maintain confidentiality
- Ability to handle multiple duties/priorities on a daily basis; ability to function effectively under deadlines and still maintain accuracy; able to keep up in a fast-paced work environment.
- Computer literate, knowledge of Microsoft Office Software
- Ability to work independently, as well as with team members; self-motivated; 'can do' attitude

Required education:

- Bachelor's

Required experience:

- Aviation Maintenance: 5 years

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**FLIGHT DATA ANALYST**

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Department: Flight Data Analysis Department

Location: Miami Fl.

9941 West Jessamine Street Miami, Florida 33157 USA

Education: 4 Year Degree

Job **Flight Data Services Analyst**

Description:

**POSITION SUMMARY:**

The Flight Data Services Analyst will be responsible for performing FDR Airworthiness Reasonability Checks, using Avionica's Flight Data Analysis software "AVSCAN. In addition, the Analyst will perform incident analysis and ARINC 429 data analysis when required.

**RESPONSIBILITIES:**

- Perform FDR Flight Data Analysis on aircraft of multiple types
- Perform Flight Data Incident Analysis
- Communicate with customers on findings and work status
- Write Interpretation Guideline documents for various aircraft models and dataframes as required
- Assist Template Team in building Analysis Templates for various aircraft models and dataframes, when necessary
- Interface with the Flight Data Services Assistant Manager on a regular basis to report on status and any issues that may arise.
- Assist in evolution of Flight Data Services offerings.
- Complete required tasks in a timely fashion with minimal supervision.
- Commitment to comply with the requirements of Avionica's Quality System Manual.
- Continual improvement of the quality management system's effectiveness.

**KNOWLEDGE AND SKILL REQUIREMENT:**

- A minimum of 2 years of experience performing FDR Flight Data Analysis or FOQA analysis
- **Bachelors degree from an accredited college in a related discipline (aviation or engineering)** or equivalent experience/combined education, with 5 years of FDR Data or FOQA Analysis and pilot or A/C maintenance certifications or Masters in related discipline.
- Knowledge of binary, octal, and hex numbering systems a plus
- Software programming a plus
- Excellent phone skills and MS Word skills
- Good organizational skills.
- Competency in using spreadsheets required
- Competency in a Microsoft Windows work environment required

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CFDIU & CMC SIMULATORS	secureLINK	REPAIR STATIONS	REQUEST AVSCAN/RSUII	
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COLLINS SATCOM KIT	RSUII Onboard IFE Server	TRAINING CLASSES	FDR DATA ANALYSIS	
			DATA ANALYSIS PRODUCTS	
			AVSCAN FLIGHT SOFTWARE	
			AVSCAN TEMPLATES FILES	
			AVSCAN PARAMETER FILES	

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## Job Description

# General Manager - 21019

## Description

This position will oversee Signature Flight Support operations

The General Manager oversees all aspects of the Fixed Base Operation (FBO) including customer relations, line operations, accounting, and health, safety and environmental functions. Plans, directs and coordinates activities for the sale and provision of general aviation support services such as fuel, hangar and office rental, and P&L responsibility for 1-2 base locations. Manages and directs activities of subordinate supervisors and employees at the location. Acts as company liaison in matters related to the airport community. The General Manager will promote a positive team environment to better serve our customers.

Duties include:

- Develop understanding of the market for the FBO including growth opportunities.
- Conduct ongoing analysis of competition to including selling points, product offerings and pricing.
- Remain locally competitive by managing in liaison with Revenue Management team
- Creates new opportunities by developing relationships with customers, and airport authorities.
- Establish a culture that promotes safety through daily observations, shift briefings, routine audits, maintenance of SHEBBA, monthly safety meetings, training and documented safety procedures. Formulate procedures for use in event of aircraft accidents, fires or other emergencies.
- Establish a culture that promotes customer loyalty by creating an environment of increased employee engagement
- Regularly interact with customers to promote the FBO and to measure the level of customer satisfaction. Use customer feedback to constantly develop and improve capabilities and processes.
- Ensure proper staffing levels are maintained based on daily/weekly/monthly volumes
- Develop new business plans with capital requirements and anticipated performance. Prepare the FBO budget with insight for the capability of and opportunities for the FBO.
- Responsible for financial management of base including capital expenditures, forecasting, budgeting, audit performance and expense management.
- Carry out management responsibilities in accordance with the organization's policies and applicable laws.
- Perform leadership functions such as conducting annual reviews, making hiring decisions, and managing performance of direct reports which includes mentoring and skill development.
- Ensure employees receive company communications and necessary training including safety, customer service standards, Company values, etc.
- Ensure training and development of employees to improve work performance and maximize employee potential.
- Other duties as requested or assigned

## Qualifications

### JOB REQUIREMENTS:

To perform this job successfully, an individual must be able to perform each essential job function satisfactorily. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential job functions. Five (5) years or more management experience with three or more years of experience in aviation. **Bachelor's Degree in Business, Aviation Management** or related field preferred. The incumbent must demonstrate the following core competencies: entrepreneurship, change leadership, negotiation and influence, business acumen, operational decision making, customer orientation, driving for results, managing and measuring work, interpersonal skills and superior ability to positively relate and communicate to customers. Working knowledge of Microsoft Excel, Word and web based applications. Must possess a valid driver's license. Equal Opportunity Employer M/F/Disability/Vet.

Primary Location United States-Florida-Miami-Opa-Locka Executive Airport - OPF

Organization Flight Support

Schedule Full-time

what

job title, keywords or company

where

city, state, or zip

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## Quality Assurance Manager-Aviation Maintenance-Miami

F&E Aircraft Maintenance and Engineering (FEAM) - Miami, FL

### Job Description

The Quality Assurance Manager reports to the Director of Quality & Safety, and is responsible for the Internal Audit Program. The Quality Assurance Manager will have the knowledge, skills, and abilities to administer all aspects of the quality assurance program including initiating and coordinating corrective actions, performing preventative action and continuous improvement activities, coordinating document control activities to meet both company and regulatory requirements.

### Duties & Responsibilities:

- Responsible for all internal and external quality audits of all line stations
- Identify systemic problems with respect to policies and procedures and report deficiencies
- Works with management on yearly audit planning
- Initiates and coordinates administration of CAP's when applicable, maintains all audit records, sends out reminders when the response is overdue, works with Management to resolve any issues, and performs actual correction action activities to assist in the corrective action process both internally and for customers
- Creates annual quality review reports through the use of data collected both internally and from customers for management review
- Monitors inspection procedures and policy on a random basis to ensure quality control procedures are being effectively carried out.
- Will monitor the operation of service checks on a random basis to ensure the proper procedures and paperwork is being utilized.
- Assist in the review and updating procedure of the Repair Station / Quality Control Manual
- Responsible for the company's Read & Sign program.
- Maintains the Repair Station and Customer Airline authorization rosters.
- Assist in the development and implementation of vendor audit processes and procedures.
- Maintains the Repair Station Approved Vendor List.
- Performs Other duties as assigned.

### Education & Experience:

- Three years' experience in aerospace industry quality related roles
- Experience with Quality Assurance, auditing, inspection techniques, document control, corrective and preventative actions, continuous improvement, risk management, supplier reviews preferred
- Bachelor's degree in Aviation Management, Safety or related field; preferred
- A&P certificate a plus

### Required Skills/Attributes:

- Knowledge of 14 CFR Part 145 & 121 operations and environment.
- Must have strong organization skills and the ability to set and meet deadlines;
- Detail oriented, and have the ability to work in a fast-paced environment with constantly shifting priorities.
- Excellent Communication skills, both written and verbal;
- Ability to work independently as well as in a team



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About this company

### F&E Aircraft Maintenance and Engineering (FEAM)

About Us FEAM is a MRO (Maintenance, Repair, Overhaul) company providing aircraft line maintenance services to a variety of domestic...

environment;

- Possess a high degree of proficiency with MS Office products (including Word, Excel, and PowerPoint).

Employment Type : Full-time

Application Process: Interested applicants must submit a cover letter and resume to FEAM's Safety Department.

Job Type: Full-time

Job Location:

- Miami, FL

Required education:

- Bachelor's

Required experience:

- Quality Assurance: 3 years

Required license or certification:

- A&P Certificate a plus

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Please review all application instructions before applying to F&E Aircraft Maintenance and Engineering (FEAM).

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CITY OF FORT LAUDERDALE  
invites applications for the position of:  
**AIRPORT OPERATIONS AIDE**

**SALARY:** \$42,411.20 - \$57,033.60 Annually

**OPENING DATE:** 08/10/16

**CLOSING DATE:** 08/24/16 11:59 PM

**THE POSITION:**

The City of Fort Lauderdale is seeking dynamic and goal-driven employees. Employees that are motivated to take on today's greatest challenges and rewards in the field of local public service. Employees who are passionate about making a difference and achieving our mission: We Build Community, in a fast-paced organization that operates by vision, strategy, and action. Would you fit in? Apply now.

This is operations staff work of average difficulty performed in the field and office assisting in the routine day-to-day operational duties and details required for the safe and efficient operation of the Fort Lauderdale Executive Airport and Downtown Heliport.

Under supervision, employees in this class assist in maintaining and operating facility systems. These employees must be familiar with all operating protocols, safety procedures, and emergency programs; and must be conversant with City rules, regulations, procedures and ordinances, particularly as applied to aviation property. Employees must exercise some initiative and independent judgment in planning and completing assignments. Work is regularly reviewed by forms, observation, and reports submitted, and daily results of work assignments.

This job classification is included within the bargaining unit represented by Teamsters Local Union 769 and therefore is subject to the terms and conditions of the Collective Bargaining Agreement between the City of Fort Lauderdale and Teamsters Local Union 769.

**NOTE:** The duties of this position will include all of those duties set forth in the official job description.

**THE REQUIREMENTS:**

1. Have successfully completed two (2) years of college coursework in airport management, business, or public administration, engineering or other job-related field from an accredited college or university.
2. Have one (1) year experience in the operation of a general aviation airport.
3. Additional qualifying work experience may be substituted on a year-for-year basis for the formal education requirement. **Possession of a Bachelor's Degree in one of the fields noted in #1 above may be substituted for the experience requirement.**
4. Possess a valid Florida driver's license with an acceptable driving record.

**THE EXAMINATION AND HOW TO APPLY:**

All applicants must complete the attached supplemental questionnaire as well as the standard employment application. The supplemental questionnaire must be submitted at time of application.



Depending on the number of applicants and the quality of their education and experience, the examination may consist of one or more of the following tests: Evaluation of Training and Experience, Oral Interview, Written Examination, or other assessment method. Applicants must attain a minimum score of 70 in each part of the examination in order to qualify. All successful applicants may be required to take a medical examination and/or pass a drug screening prior to appointment.

An eligible veteran who enters an open-competitive examination shall receive preference points added to the total passing score earned in the examination as provided for in the Florida Statutes. To obtain veteran's preference, candidates MUST submit a copy of separation papers and the City of Fort Lauderdale's veteran's preference claim form (J204) at time of application.

APPLICATIONS MAY BE FILED ONLINE AT:  
<http://www.fortlauderdale.gov>

Position #443-05  
 AIRPORT OPERATIONS AIDE  
 EB

100 North Andrews Avenue  
 Fort Lauderdale, FL 33301  
 954-828-5300

[HumanResources@fortlauderdale.gov](mailto:HumanResources@fortlauderdale.gov)

## AIRPORT OPERATIONS AIDE Supplemental Questionnaire

1. This application supplement is an integral part of the application process and must be completed together with the formal application in order for you to be considered as an applicant. Answer each question as thoroughly as possible as your responses will be rated as to how they relate to the position to be filled. Please type or print legibly as your supplement responses that are not legible will be difficult to evaluate completely and fairly. Answer questions on separate sheet, in the same format if necessary.
- \* 2. What is the highest level of degree or college coursework that you have successfully completed in airport management, business, or public administration, engineering or other job-related field from an accredited college or university?
  - None
  - Less than 1 year
  - 1 year
  - 2 years
  - 3 years
  - 4 or more years, but no degree obtained
  - Bachelor's degree obtained
- \* 3. If you answered "Bachelor's degree obtained" to question 2, include the name of the college or university and the degree obtained. If not, enter "N/A".
- \* 4. How many years of paid work experience do you have in the operation of a general aviation airport?
  - No experience
  - Less than 1 year
  - 1 year
  - 2 years
  - 3 years

4 or more years

- \* 5. If you did not indicate "no experience" in question 4, please include the name of your employer, your job title, and dates of employment for your relevant work experience. Otherwise, please enter "N/A".
  
- \* 6. Do you possess a valid Florida driver's license with an acceptable driving record?
  - Yes
  - No
  
- \* 7. Do you possess a private pilot's license?
  - Yes
  - No
  
- \* 8. Note any other relevant experience, training, licenses, etc., that you have not previously listed on this questionnaire or the employment application.
  
  
- \* Required Question



Lufthansa Group



Lufthansa Technik



## Corporate Key Account Manager (M/F)

Starting October, 2016

Miami, FL (United States of America)

Management and Coordination of customer relationships to increase the business within the Lufthansa Technik Group

Management of a virtual Lufthansa Technik group team

Development and implementation of a long term customer strategy

- Development and management of customer relationships with important client stakeholders, identification of important decision makers within customer organization and development of a communication plan
- Conduct contract negotiations and sales or major sales projects and lead acquisition teams
- Management and coordination of the holistic customer relationship, organization of regular customer visits, customer activities and events, coordination of management involvement
- Conduct regular feedback rounds and lessons learnt with customer, analysis of customer satisfaction, identification of critical issues regarding customer relationship, deduction of possible solutions
- Analysis of customer, markets and competition, development of intense customer insights and knowledge, knowledge transfer and information sharing with the organization (for example, Product Management and Business Intelligence), regular updating of customer information in the Customer Relationship Management system
- Development of a single customer development strategy (account plan) based on developed customer insights as well as derivation and implementation of an action plan
- Regular review of action plan implementation, target achievement and account performance, quarterly reporting to management about status of target achievement and account performance
- Identification of customer needs and demands, specific and proactive development of value-generating products and solutions for customer based on identified needs

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- Response to and participation at regular tenders, identification of up- and cross-selling potential and creation of customer-oriented offers and contract drafts
- Plausibility checks to offers and contract content, start of internal approval processes and coordination, contract negotiation with customer
- Independent coordination of all stakeholders during sales and fulfillment process respectively assignment and coordination of supporting Bid / Fulfillment managers if this function is included in sales and fulfillment process
- Operation of warranty and goodwill process, alignment and coordination of payment issues with customers and internal departments, coordination of all contract contents related to fulfillment processes
- Coordination of Key Account team, organization of Jour Fixes and regular information about customer development, involvement of team in all account activities

\*All other duties as assigned or required

## Your profile

- High school diploma/GED required
- **College degree/vocational training: Master desirable, Bachelor required**
- Professional experience required: At least 5 years' experience within Sales respectively customer interface
- Language: English required, German and Spanish desirable
- Industry knowledge required: Aviation Maintenance Repair Overhaul Industry, Regional Maintenance Repair Overhaul Markets, Business Management, Accounting, Customer Service
- Expert knowledge required: Very high experience on sales and negotiation methods
- User IT Knowledge: MS Excel, Word and PowerPoint; SAP CRM

Environmental Influences:

- Must possess permit to work in the U.S.
- Willingness for assessment screening
- Willingness to travel
- Must possess a valid driver's license

Airport environment:

- Must be willing to work under constant time pressure
- Must be willing to work under high stress levels

Authorities:

- In accordance with rules and regulations, and given authorities

\*CV / Resume requested

## About Lufthansa Technik AG

Lufthansa Technik is the worldwide leading independent provider of maintenance, repair, overhaul and modification services for civil aircraft. With tailored maintenance programs and state-of-the-art repair methods we ensure the durable reliability and availability of our customers' aircraft fleets. We are an internationally-licensed maintenance, production and development company. With its six business units (Maintenance, Overhaul, Component Services, Engine Services, Landing Gear Services, and VIP Services and Innovation) the Lufthansa Technik Group offers its approximate 800 customers worldwide, a complete range of services round about aircraft technology.

If this is you, please apply online.

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Be who you want to be  
Be-**Lufthansa**.com



## Pilot - Captain- Fort Lauderdale, FL

? Help

Please fill in the information below and use the navigational buttons to continue.

**Warning: Using your browser's Back and Forward buttons may produce undesirable results.**

### PREFERRED QUALIFICATIONS:

- Minimum of 5000+ hours of total pilot time in fixed wing aircraft.
- 3000+ hours Turbine PIC or multi-engine aircraft preferred (150 hours flown within the last 12 months).
- Air carrier flight experience in turbojet aircraft or two person crew.
- Part 135 or Flight Instructor experience.
- Learjet 35 or similar aircraft experience.
- Ability to comprehend and execute complex procedures.
- Must possess sound analytical skills, and possess high tolerance for stress.
- Demonstrated ability to work with others in team environment.
- Must be able to work under tight time constraints and deadlines.
- Strong oral and written communication skills with the ability to provide clear, effective, and timely communications to peers and superiors.
- Ability to interact successfully with various departments and airport personnel.
- Professional appearance.
- Reside or relocate within 45 minutes of base airport, 30 minutes preferred.

### LICENSES, CERTIFICATES, & BADGE REQUIREMENTS

- **Bachelor degree in aviation management preferred**
- Commercial, Instrument, MEL. Current Airline Transport Pilot written required. Rating preferred.
- Current First Class FAA Medical Certificate required.
- Capable of obtaining and maintaining Airport Access Badges as required
- Applicants must be able to prove U.S. citizenship or legal right to work in the United States.
- Applicants must be able to travel freely and without restrictions inside/outside the United States.
- Must be able to meet ICAO requirements, including the age 65 restriction
- Applicants must be at least 23 years of age.

### PHYSICAL REQUIREMENTS

- Work in a high stress environment while remaining calm composure
- Lift 75+ lbs.
- Work various shifts and schedules, including nights, weekends, and holidays.

### BENEFITS

- Industry competitive salary
- Group healthcare insurance (Medical, Dental, Vision, Life)
- Matching 401k
- Bonuses
- Scheduled hard days off
- 10 vacation days
- 5 Sick days
- Additional pay for flying on 6 national holidays

APPLICANT STATEMENT:

REVA Inc. is an equal opportunity employer and does not discriminate against any applicant or employee because of race, color, religion, sex, national origin, sexual orientation, disability, age, or military or veteran status in accordance with federal law. In addition, REVA Inc. complies with applicable state and local laws governing non-discrimination in employment in every jurisdiction in which it maintains facilities. REVA Inc. also provides reasonable accommodation to qualified individuals with disabilities in accordance with applicable laws.

During the application process and, if hired, during employment, I agree to participate (if so requested by the Company and as not prohibited by applicable law) in background check, credit check, and in drug or alcohol testing to determine whether employees are under the influence of controlled drugs or illegal substances. Such tests or examinations will be performed by qualified professionals selected by the Company.

REVA complies to all workplace rights and responsibilities in accordance with federal laws and regulations, including but not limited to EEOC, sexual orientation, gender, marital status, religion, or disability.

My signature attests to the fact that the information that I have provided on my application, resume, given verbally, or provided on any other materials, is true and complete to the best of my knowledge and also constitutes authority to verify any and all information submitted on this application. I understand that any misrepresentation or omission of any fact in my application, resume or any other materials, or during any interviews, can be justification for refusal of employment, or, if employed, termination from the Company's employ.

The Company or its agents may seek to verify the information on this application. As such, I hereby authorize the Company or its agents to contact any former employer or any representative of any other organization to which I have made reference in this application, and I hereby authorize said employer and/or representative to provide information to the Company on my behalf. I also affirm that I have not signed any kind of restrictive document creating any obligation to any former employer that would restrict my acceptance of employment with the Company in the position I am seeking.

I understand that this application is not an employment contract for any specific length of time between the Company and me, and that in the event I am hired, my employment will be "at will" and either the Company or I can terminate my employment with or without cause and with or without notice at any time. Nothing contained in any handbook, manual, policy and the like, distributed by the Company to its employees is intended to or can create an employment contract, an offer of employment or any obligation on the Company's part. The Company may, at its sole discretion, hold in abeyance or revoke, amend or modify, abridge or change any benefit, policy practice, condition or process affecting its employees.

For California Applicants Only

I am providing my contact information to the Company for limited purposes only and consider such information to be private. I understand that from time to time individuals file class action lawsuits against companies and that the mere filing of a lawsuit does not mean that the claims in the lawsuit have merit. I also understand that it is possible that individuals or their attorneys may ask that the Company provide them with my contact information as part of a class action lawsuit. I do not consent to the Company providing my contact information to any individual or attorney in any such lawsuit that may be filed, unless I later give my express written consent, or unless the Company is required to do so by law or the Company determines that I am a witness to that lawsuit.

I acknowledge that I have read all of the above statements, and that I understand them.

First Name \*

Last Name \*

Email Address \*

Country \*

Address Line 1 \*

Address Line 2

City \*

State \*

Zip Code \*

Daytime Phone \*

Evening Phone

Voluntary Self-Identification Information

Completion of this information is voluntary and is not a requirement. This information will in no way affect the decision regarding your application. This information will be kept confidential.

EEO\* ["EEO is the Law" poster](#) ["EEO es la Ley" cartel](#) [Why are we asking?](#)  
["EEO is the Law" Supplement](#)



Suplemento del documento "EEO es la Ley"  
Pay Transparency Policy Statement

Gender

 I decline to identify my race & ethnicity

Ethnicity

- Hispanic or Latino  
 Not Hispanic or Latino

Race

Select one or more values

- American Indian or Alaska Native  
 Asian  
 Black or African American  
 Native Hawaiian or Other Pacific Islander  
 White  
 Two or More Races

## Protected Veteran Status\*

If this employer is not a federal contractor or subcontractor, they are not required to report on applicant Protected Veteran Status. Click the Why are we asking? link for more information.

[Why are we asking?](#)    [What is a Protected Veteran?](#)

- I identify as one or more of the classifications of protected veteran.  
 I am not a protected veteran.  
 I decline to self-identify.

## Section 503 Disability Status

If this employer is not a federal contractor or subcontractor, they are not required to report on applicant Section 503 Disability Status.

[Invitation to self-identify as an individual with a disability](#)

[Invitation to self-identify as an individual with a disability \(Spanish\)](#)

- I have read the above invitation to self-identify as an individual with a disability.
- Yes, I have a disability (or previously had a disability).  
 No, I don't have a disability.  
 I don't wish to answer.

## Notice\*

UNDER MARYLAND LAW AN EMPLOYER MAY NOT REQUIRE OR DEMAND AS A CONDITION OF EMPLOYMENT, PROSPECTIVE EMPLOYMENT OR CONTINUED EMPLOYMENT, THAT AN INDIVIDUAL SUBMIT TO OR TAKE A LIE DETECTOR OR SIMILAR TEST. AN EMPLOYER WHO VIOLATES THIS PROVISION IS GUILTY OF A MISDEMEANOR AND SUBJECT TO A FINE NOT EXCEEDING \$100.

IT IS UNLAWFUL IN MASSACHUSETTS TO REQUIRE OR ADMINISTER A LIE DETECTOR TEST AS A CONDITION OF EMPLOYMENT OR CONTINUED EMPLOYMENT. AN EMPLOYER WHO VIOLATES THIS LAW SHALL BE SUBJECT TO CRIMINAL PENALTIES AND CIVIL LIABILITY.

- I HAVE READ THE ABOVE LIE DETECTOR TEST NOTICE

\* required fields



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# JOB DETAILS

Requisition Number 16-0515

Post Date 6/22/2016

Title Manager, Maintenance Planning

City Miramar

State FL

## Description

The Manager for Maintenance Planning reports to the Director of Planning and Heavy Maintenance. This position will have the overall responsibility to lead both the long-term and short-term Maintenance Planning Teams, and executes all maintenance planning, scheduling and aircraft routing for Spirit Airlines' maintenance requirements.

### Key Responsibilities:

- Responsible for ensuring all required maintenance items that are scheduled and issued within time limits specified in the FAA approved maintenance program.
- Supervises the Planning team in preparing all scheduled daily maintenance, check requirements and heavy maintenance activities such as, "C" checks, 6- and 12-year structural checks, and any other task requiring closing action to meet compliance requirements.
- Monitors Spirit's electronic systems for accomplishments of

initial, final and repetitive tasks, including all Airworthiness Directive's and Engineering Orders.

- Coordinates with Planners, Materials, Maintenance and Maintenance Control on all manpower, parts, and tooling required.
- Prioritizes daily workload and adjusts for schedule changes
- Monitors and sets sufficient ground time with RON stations and heavy maintenance providers for aircraft maintenance.
- Oversees maintenance routing required to ensure aircraft are routed appropriately to meet the required maintenance schedule. Collaborates with operations departments to ensure aircraft routing supports required maintenance.
- Reviews, recommends and implements technology and processes improvements.
- Monitors performance, provides feedback, trains and develops Maintenance Planning team members.
- Other duties as assigned.

### **Required skills/experience:**

- Must hold a valid FAA A & P Certificate.
- Five + years airline industry experience in maintenance or maintenance planning.
- Bachelor degree in business or aviation, or related experience.
- Managerial experience preferred, with the ability to train and motivate a team.
- Working Knowledge of Part 121 Federal Aviation Regulations.
- Valid Passport with the ability to travel in and out of the U.S.
- Must be able to pass a ten (10) year background check, pre-employment drug test, and criminal history records check (CHRC).

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# CAREER OPPORTUNITIES

## OPPORTUNITIES AT GA TELESIS

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### Vice President of Technical Services

Department: Asset Management

Location: Fort Lauderdale, FL

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Reporting to the Sr. VP asset management, manage all technical aspects of the company business including but not limited to the following tasks:

- Manage technical services and technical records teams
- Ensure company aircraft, engines and parts have complete documentation in support of business and regulatory requirements
- Manage all maintenance related activities for company owned and managed assets such as: airframe check, engine shop visits, asset disassemblies, audits and inspections, pre-buy inspections, deliveries and redelivery
- Advise company on all air craft and engine purchase, sale, or lease transactions as it relates to asset technical condition, present and future technical risks, and technical related contract terms
- Monitor the GA Telesis owned and managed fleet of air craft and engines to ensure compliance with lease agreements, regulatory requirements and proper storage condition
- Negotiate with sellers/buyers/lessees with relation to asset technical condition during transactions.
- Review all air craft and engine maintenance reserve claims to ensure compliance with lease agreements
- Manage work scope planning as required for aircraft and engines

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- Minimize maintenance and organizational costs

#### Experience / Requirements:

- Hold a **technical bachelors degree**, masters degree or MBA preferred
- Hold aviation mechanic license including Airframe & Powerplant ratings
- 5-10 years experience working for part 121 carrier or air craft leasing company
- Have experience working with CFM56, CF6, PW4000, JT8D, CF34, V2500 and other common commercial turbofan engines
- Willingness to travel, sometimes on short notice
- Have the ability to provide sound leadership and direction
- Have excellent communication skills, both written and interpersonal
- Have the ability to negotiate with colleagues, employees, customers and vendors
- Have the ability to understand, build and manipulate complex excel models
- Have the ability to review purchase, sale, and lease agreements for adherence to agreed transaction terms a also to identify potential risk factors
- Be detail oriented and excel at project management
- Be able to multitask to solve problems in pressure situations to accomplish company objectives
- Additional duties and responsibilities may apply

[Click Here to Complete Your Application](#)

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Applicant Tracking System Powered by  ClearComp

## Survey

**Purpose:** The purpose of this survey is to gauge student interest in a potential **Bachelor of Science degree in Aerospace Sciences**. *Your response is completely voluntary*, but extremely important as it will help guide us in the decision to pursue program development.

**Background:** In 2001, the Florida Legislature passed legislation allowing community colleges to grant baccalaureate degrees (bachelor degrees). Broward College currently offers 10 bachelor degrees in various disciplines. Bachelor degree programs are typically 8 semesters in length, however completion of an associate degree would count towards 4 of those semesters. Therefore, enrollment in a bachelor program once you've graduated with an associate degree would entail approximately 4 additional semesters of full-time study.

1. If Broward College currently offered a **Bachelor of Science degree in Aerospace Sciences**, how *likely* would you be to enroll once you became eligible? (please circle one)

	Not									Very
	Likely									likely
1	2	3	4	5	6	7	8	9	10	

2. If offered, in which track would you be interested? (please circle one)

- a. Professional Pilot Technology
- b. Aviation Maintenance
- c. Aviation/Airport Operations
- d. Other \_\_\_\_\_

3. Are you currently enrolled in an A.S. or AAS program? (please circle one)

- a. Yes (proceed to question 4)
- b. No (proceed to question 6)

4. In which program are you *currently* enrolled? (please circle one)

- a. A.S. Airport Operations Management (21051)
- b. AAS Air Traffic Control (A039)
- c. A.S. Aviation Operations (2105)
- d. A.S. Aviation Maintenance Management (2204)
- e. A.S. Professional Pilot Technology (2107)
- f. Other \_\_\_\_\_
- g. Unsure

5. When do you anticipate graduating from the program? (please place an ✕ in one box)

	2013	2014	2015
Winter (May)			
Summer (August)			
Fall (December)			



6. What factor is *most important* to you in making your decision to pursue a Bachelor Degree?  
(please circle **one**)
- a. Program is available locally
  - b. Program fits my schedule
  - c. Program is affordable (including availability of financial aid resources)
  - d. Internships are available
  - e. Other \_\_\_\_\_
7. Are there any other considerations which might affect your decision to pursue a Bachelor of Sciences degree in Aerospace Sciences at Broward College? (please circle one)
- a. No
  - b. Yes (please explain) \_\_\_\_\_

Thank you for taking the time to complete this survey.

If you are interested in being contacted when more information becomes available, please leave your name, email address and/or phone number. (optional)

Name: \_\_\_\_\_

Email: \_\_\_\_\_

Phone: \_\_\_\_\_

**BROWARD COLLEGE**  
**Minutes of the Regular Meeting of the Board of Trustees**  
**April 23, 2013**

**PRELIMINARIES**

President J. David Armstrong Jr. welcomed everyone to the April meeting of the Board of Trustees. Chair Sean Guerin requested Tai Houser, District Director for the Robert “Bob” Elmore Honors Institute, lead in the Pledge of Allegiance.

Norm Seavers, Associate Vice President for Economic Development, recognized the retirement of Carol Faber.

President J. David Armstrong Jr., recognized the Jack Kent Cooke Scholars, Miklos Haranghy and Duckenson Joseph.

**I. MEETING CALLED TO ORDER**

The regular meeting of the Board of Trustees of Broward College was called to order at 1:06 p.m. on Tuesday, April 23, 2013 by Chair Sean Guerin at the Willis Holcombe Center, 111 East Las Olas Boulevard, Building 33, Boardroom 1208, Fort Lauderdale, Florida 33301. In attendance were Chair Sean Guerin, Vice Chair Sean Alveshire, Trustee Pamela Stephany, Trustee Elizabeth Tonkin, General Counsel Gregory Haile, and President J. David Armstrong, Jr.

**II. APPROVAL OF AGENDA AND ACKNOWLEDGMENT OF PUBLIC NOTICE**

Chair Guerin called for a motion to approve the Agenda and Public Notice of the Regular Meeting of the Board of Trustees. Vice Chair Alveshire made the motion with a second by Trustee Stephany. The motion passed unanimously.

**III. APPROVAL OF MINUTES**

Chair Guerin called for a motion to approve the minutes of the student forum and regular meeting of the Board of Trustees held on March 26, 2013. Vice Chair Alveshire made the motion with a second by Trustee Stephany. The motion passed unanimously.

**VI. CONSENT AGENDA ITEMS**

Chair Guerin called for a motion to approve the consent agenda, as amended. Vice Chair Alveshire made the motion with a second by Trustee Stephany. The motion passed unanimously.

**VII. COLLEGE PRESENTATIONS**

**1. 2013 Legislative Update – Gregory A. Haile, General Counsel and Vice President for Public Policy and Government Affairs**

Gregory A. Haile, General Counsel and Vice President for Public Policy and Government Affairs, provided an update on the current issues at the 2013 Legislative Session in Tallahassee, Florida. Mr. Haile shared the Appropriations Subcommittee on Education chair’s proposal for fiscal year 2013-2014.

Additionally, he shared the proposed update to Senate Bill 1720 regarding \$10,000 Bachelor's Degrees and the proposed changes to residency for in-state tuition purposes.

## **IX. ACTION ITEMS**

### **A. Campuses**

- 1. Recommendation to authorize the submission of a letter of intent to the Division of Florida Colleges to implement a Bachelors of Science in Aerospace Sciences – Dr. Linda Howdyshell, College Provost and Senior Vice President for Academics and Student Success and Russell McCaffery, Dean for Transportation Programs**

Chair Guerin called for a motion to approve the recommendation to authorize the submission of a letter of intent to the Division of Florida Colleges to implement a Bachelors of Science in Aerospace Sciences. Vice Chair Alveshire made the motion with a second by Trustee Stephany. The motion passed unanimously.

- 2. Recommendation to authorize the submission of a letter of intent to the State of Florida for approval to explore a fully-online Bachelor of Applied Science in Health Informatics and Information Management – Dr. Linda Howdyshell, College Provost and Senior Vice President for Academics and Student Success, Dr. Barbara J. Bryan, North Campus President and Dr. Gregory Ferenchak, Dean for Health Sciences**

Chair Guerin called for a motion to approve the recommendation to authorize the submission of a letter of intent to the State of Florida for approval to explore a fully-online Bachelor of Applied Science in Health Informatics and Information Management. Vice Chair Alveshire made the motion with a second by Trustee Stephany. The motion passed unanimously.

### **G. Human Resources**

- 1. Recommendation to authorize submission of the College Annual Equity Update Report to the Florida Department of Education Division of Florida Colleges by April 30, 2013 – Dr. Denese Edsall, Associate Vice President for Human Resources**

Chair Guerin called for a motion to approve the recommendation to authorize submission of the College Annual Equity Update Report to the Florida Department of Education Division of Florida Colleges by April 30, 2013. Vice Chair Alveshire made the motion with a second by Trustee Stephany. The motion passed unanimously.

- 2. Recommendation to authorize the 2013-14 Faculty Sabbaticals – Dr. Linda Howdyshell, College Provost and Senior Vice President for Academics and Student Success**

Chair Guerin called for a motion to approve the recommendation to authorize the 2013-14 Faculty Sabbaticals. Vice Chair Alveshire made the motion with a second by Trustee Stephany. The motion passed unanimously.

## H. Other Actions Items

1. **Recommendation to authorize a contract with Lingua to provide language training to non-degree seeking students and executives for non-native English speakers as well as a variety of other foreign languages – Renee Law, Director for Continuing Education**

Chair Guerin called for a motion to approve the recommendation to authorize a contract with Lingua to provide language training to non-degree seeking students and executives for non-native English speakers as well as a variety of other foreign languages. Trustee Stephany made the motion with a second by Vice Chair Alveshire. The motion passed unanimously.

## I. Policies

1. **Revisions to Policy 6Hx2-3.07 – Adjunct and Substitute Faculty – Dr. Denese Edsall, Associate Vice President for Human Resources**

Chair Guerin called for a motion to approve the revisions to Policy 6Hx2-3.07 – Adjunct and Substitute Faculty. Vice Chair Alveshire made the motion with a second by Trustee Stephany. The motion passed unanimously.

2. **Revisions to Policy 6Hx2-4.19 – Grades and Grade Appeals – Dr. Linda Howdyshell, College Provost and Senior Vice President for Academics and Student Success**

Chair Guerin called for a motion to approve the revisions to Policy 6Hx2-4.19 – Grades and Grade Appeals. Vice Chair Alveshire made the motion with a second by Trustee Stephany. The motion passed unanimously.

3. **Revisions to Policy 6Hx2-5.14 – Placement Testing and Skills Remediation – Dr. Linda Howdyshell, College Provost and Senior Vice President for Academics and Student Success**

Chair Guerin called for a motion to approve the revisions to Policy 6Hx2-5.14 – Placement Testing and Skills Remediation. Vice Chair Alveshire made the motion with a second by Trustee Stephany. The motion passed unanimously.

## X. INFORMATION ITEMS

### B. Information Items

President Armstrong discussed the information items.

### D. Board Comments

Trustee Stephany shared her experience and congratulated the College for hosting a successful book signing event with Jon Meacham.

Chair Guerin shared his experience at the Junior Achievement World Huizenga Center at Broward College. He congratulated Greg Haile, General Counsel and Vice President for Public Policy and Government Affairs, for being honored by Broward 2-1-1 and Linda Wood, Dean of the Institute for Public Safety for being honored as one of five outstanding community servant-leaders by the Leadership Broward Foundation.

## **XI. ADJOURNMENT**

With no further business to discuss, the meeting was adjourned at 3:02 p.m.

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J. David Armstrong, Jr.  
President, Broward College

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Sean Guerin  
Chair, Board of Trustees



Office of the President  
Willis Holcombe Center  
111 East Las Olas Boulevard, Fort Lauderdale, FL 33301  
Phone: 954-201-7401/Fax 954-201-7357

*J. David Armstrong, Jr., President*

March 21, 2014

Chancellor Randall W. Hanna  
Division of Florida Colleges  
325 West Gaines Street, Suite 1544  
Tallahassee, FL 32399

Dear Chancellor Hanna:

In accordance with Florida Statute 1007.33 and Florida Administrative Code Rule 6A-14.095, and as approved by the Broward College District Board of Trustees on April 23, 2013, Broward College hereby submits this letter of intent to offer a Bachelor of Science degree in Aerospace Sciences. Below, please find the descriptions, career paths and employment opportunities for graduates, workforce demand data, key skills of graduates, regional higher educational planning, and institutional capacity and funding for the program. The estimated timeframe for implementation/upper division enrollment is January 2015.

### **Bachelor of Science in Aerospace Sciences**

#### *Program Description:*

The Bachelor of Science in Aerospace Sciences degree is designed specifically for those students with a desire to work in various aviation-related careers. The program introduces students who are new to aviation to a wide-ranging sampling of the various sectors, but also allows students with a more focused approach the opportunity to concentrate on a particular area of interest. This program would recruit students from existing Aviation related AS programs in South Florida. This program will: 1) meet the needs of local employers for a more highly educated workforce, 2) give BS graduates a significant salary advantage over those without a BS degree, 3) provide graduates with the opportunity to pursue graduate level work often required for executive-level positions in the industry, and 4) allow for a reduction in required flight hours for those students who choose the Professional Pilot track.

#### *Key Skills of Graduates:*

Graduates of the program who pursue the Professional Pilot track will be able to:

1. Interpret and assess large aircraft systems
2. Discuss relevant topics related to law and ethics in the aerospace industry
3. Predict and solve human factors challenges in the cockpit
4. Compile, interpret, and draw conclusions from safety data related to flight



5. Discuss high speed, high altitude aerodynamics
6. Discuss propulsion systems of large, complex aircrafts

Graduates of the program who pursue the Aerospace Management track will be able to:

1. Compare varying methods of managing the airside and landside operations of a large airport
2. Discuss various facets of airline operations
3. Explain the environmental concerns related to airports and airline operations
4. Determine aviation security measures to implement in various scenarios
5. Evaluate and compare aviation maintenance tasks necessary for safe flight
6. Explain methods for designing modern airports

*Career Path and Potential Employment Opportunities for Graduates:*

This program is intended to prepare graduates for a variety of supervisory, management, and leadership positions within the growing aviation industry at airlines, airports, aircraft maintenance, repair, and overhaul companies, etc. It is also designed to give current workers in the field advanced education to make them more competitive for promotion opportunities. It is anticipated that there will be two tracks: a track for the Professional Pilot student, and a track for Aerospace Management. Completion of the Professional Pilot track would qualify graduates for eligibility in a reduction of flight hours experience necessary to be hired by commercial airlines, from 1,500 hours down to 1,000 hours. In addition to the cost savings in reduced training time, there is an added economic benefit to the students in that they may be hired by an airline earlier in their careers; therefore their lifetime earning potential is greatly increased. Completion of the Aerospace Management track would made the graduate eligible for supervisory and management positions throughout the industry, which would generally be guided by their AS degree. For example, graduates who earned their AS in Aviation Maintenance Technology and their BS in Aerospace Sciences would be well-positioned for a supervisory maintenance position at an airline or in the private or public sector.

*Regional Higher Educational Planning:*

Neither of the two state universities in Broward College's service area, Florida Atlantic University (FAU) or Florida International University (FIU), offers a similar program. An email from Anthony Abbate, Associate Provost of FAU, confirmed that FAU neither offers, nor intends to offer, any similar programs (See Attachment A). An email from Drs. Amir Mirmiran and Cesar Levy at FIU confirmed that FIU does not offer, and does not plan to offer a similar program (See Attachment B). Nova Southeastern University (NSU) offers a Bachelor of Science in Human Services Administration with a concentration in Human Factors in Aviation; however the proposed Broward College program is substantially different from the NSU program. On March 17, 2014, Broward College South Campus President, Dr. S. Sean Madison, and Dean Russell N. McCaffery met with NSU dean, Dr. Kimberly Durham, regarding the NSU program and opportunities to partner with them. While NSU had no opposition to the development of our Bachelor's program, we discussed the possibility of Broward College students to articulate into NSU's Master's program currently under planning and development. Broward College Administrators present at the meeting explained that our proposed program would target not only pilots, but all professional-level positions within the aviation industry. We also discussed

partnership opportunities in the possible formation of an aviation-educators' consortium (See Attachment C).

*Workforce Demand, Unmet Need, and Economic Impact:*

Analysis of State and County labor data, as well as consultation with local employers indicates that there is a demand for individuals with this degree, and no State College or University in South Florida provides education at the Bachelor's degree level in this field. Florida is currently the #2 state in aviation, aerospace, and space establishments. There are nearly 2,000 companies in Florida employing some 84,000 industry professionals. The Aviation/Aerospace industry has been identified by Enterprise Florida as one of five qualified targeted industries, and Governor Rick Scott has led trade missions overseas touting the State's competitive advantage in the industry. Additionally, Florida is 1<sup>st</sup> for flight training business, 1<sup>st</sup> for activities which support air transportation, 2<sup>nd</sup> for parts manufacturing, 3<sup>rd</sup> for aircraft manufacturing, 4<sup>th</sup> in aviation and aerospace employment, and 5<sup>th</sup> in total air cargo volume.

In addition to this, there are several major airlines that either *require* a baccalaureate degree or consider it a competitive hiring advantage. Specifically, both United Airlines and Delta Airlines cite a 4-year degree as a requirement in being hired as a pilot. Additionally, projections for growth in this industry are tremendous. The U.S. Department of Labor projects 21% growth between 2010 and 2020 for Commercial Pilots, and pay for airline pilots is high with median annual wages of \$103,210, with the top 10% earning in excess of \$166,400 annually<sup>1</sup>. *USA Today* and many other publications have recently published articles on a looming pilot shortage brought on in part by changes to Federal regulations which now require all airline pilots to have a minimum of 1,500 flight hours before they can be hired<sup>2</sup>, a tremendous increase over the 250 hours previously required. As noted above, graduates from the Broward College Bachelor of Science in Aerospace Sciences degree would be eligible for a reduction in required hours from 1,500 to 1,000 hours.

In August 2013, aircraft manufacturer Boeing increased its estimates for the number of pilots that will be required between 2013 and 2032 to 498,000. They also estimated that 556,000 new aviation maintenance technicians will be needed world-wide between 2013 and 2032<sup>3</sup>. Additionally, airports are growing, including Fort Lauderdale-Hollywood International Airport, which is currently ranked 1<sup>st</sup> among Large Hub airports for growth in domestic seat availability, and which has seen a traffic increase of 38% in the last 10 years.

*Expected Term and Year of Implementation:*

It is expected that upper division enrollment will begin in Winter (January), 2015 (Term 20152).

*Institutional Capacity and Funding:*

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<sup>1</sup> Bureau of Labor Statistics, U.S. Department of Labor, Occupational Outlook Handbook, 2012-13 Edition, Airline and Commercial Pilots, on the Internet at <http://www.bls.gov/ooh/transportation-and-material-moving/airline-and-commercial-pilots.htm> (visited April 15, 2013).

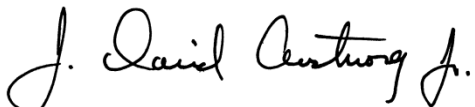
<sup>2</sup> Jones, C. (2013, Jan 07). Pilot shortage looms for airlines. USA TODAY. Retrieved from <http://search.proquest.com.ezproxy.libproxy.db.erau.edu/docview/1267083948?accountid=27203>

<sup>3</sup> Boeing Forecasts Increased Global Demand for Airline Pilots. (2013). *News Releases/Statements*. Retrieved from <http://boeing.mediaroom.com/2013-08-29-Boeing-Forecasts-Increased-Global-Demand-for-Airline-Pilots>

Startup costs will mainly be focused on the hiring of additional qualified faculty to teach the upper division courses and the acquisition of additional classroom space. We anticipate the need to hire three additional full-time faculty.

In conclusion, we look forward to continuing to meet the baccalaureate needs of our students, community, and State through innovative and quality program offerings. A full proposal for the program will be submitted according to the process and schedule set forth by the Florida Legislature, the State Board of Education, and the Florida College System. Broward College appreciates the opportunity to submit our proposal to develop the Bachelor of Science degree in Aerospace Sciences. Should you have any questions or concerns, please do not hesitate to contact me.

Sincerely,

A handwritten signature in black ink that reads "J. David Armstrong, Jr." in a cursive script.

J. David Armstrong, Jr.  
President

**From:** [Anthony Abbate](#)  
**To:** [Russell Mccaffery](#)  
**Cc:** [Diane Alperin](#); [Mohammad Ilyas](#)  
**Subject:** RE: Coordination Meeting  
**Date:** Tuesday, July 16, 2013 17:35:33

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Dear Russ

To my knowledge FAU has no plans for a similar degree in Aerospace Sciences. Thank you for asking! I will contact our College of Engineering and Computer Science to determine if there is a possibility for any related opportunities for your graduates and let you know.

Best wishes,

Tony

**Anthony Abbate AIA NCARB**

Associate Provost for the Broward Campuses  
Professor | School of Architecture  
Florida Atlantic University

<http://www.fau.edu/broward>

**Please note that content shared or posted may be subject to Florida's Public Records Law.**

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**From:** Russell Mccaffery [rmccaffe@broward.edu]  
**Sent:** Thursday, July 11, 2013 11:51 AM  
**To:** Anthony Abbate  
**Subject:** Coordination Meeting

Mr. Abbate,

I hope this email finds you well!

We met briefly several months back when we toured your SeaTech facility.

Unrelated to that visit and facility, I was wondering if you would have some time within the next few weeks to meet to discuss BC's plans to begin offering a BS in Aerospace Sciences degree. I don't believe that FAU has a similar degree, but I'd like to stop by to confirm that, to see if you are considering any such plans, and to see if there might be partnership opportunities which could mutually benefit our students.

Please let me know if you are available to meet. I'd be happy to come to your office.

Warmest regards,

Russ

**Russell N. McCaffery**

Dean

Transportation Programs

**From:** Amir Mirmiran [mailto:mirmiran@fiu.edu]  
**Sent:** Tuesday, February 18, 2014 09:25  
**To:** Cesar Levy; Russell Mccaffery  
**Subject:** RE: Our meeting today

Same here at the College of Engineering and Computing. I am not aware of any such program elsewhere within FIU either.

**Amir Mirmiran, PhD, PE, Fellow ASCE, Fellow ACI**

Dean and Vasant H. Surti Professor

*CELEBRATING*



10555 West Flagler St, Engineering Center 2477, Miami, FL 33174

Tel (305) 348-2522, Fax (305) 348-1401, Email: [mirmiran@fiu.edu](mailto:mirmiran@fiu.edu)

URLs: [Home Page](#), [Google Scholar](#), [Department](#), [College](#), [University](#)

 Please consider the environment before printing this email

**From:** Cesar Levy  
**Sent:** Tuesday, February 18, 2014 9:24 AM  
**To:** Russell Mccaffery; Amir Mirmiran  
**Subject:** RE: Our meeting today

This is Dr. Levy,

As far as I know, MME Dept has no plans to offer a BSAS. Don't know what the college plans.

**From:** Russell Mccaffery [<mailto:rmccaffe@broward.edu>]

**Sent:** Tuesday, February 18, 2014 9:10 AM

**To:** Amir Mirmiran; Donna Henderson

**Cc:** Cesar Levy; Chin-Sheng Chen; Megan Tice; Mercedes Rueda; Irtishad Ahmad

**Subject:** RE: Our meeting today

Dr. Mirmiran,

Likewise, it was a pleasure for Dean Henderson and I to meet with you and your colleagues. I know that I certainly learned a lot, and I'm sure that Donna did too.

To respond to your thorough summary below:

1. Yes, FIU students who wish to make use of our flight simulators can do so by contacting Associate Dean Jan Shakespeare ([jshakesp@broward.edu](mailto:jshakesp@broward.edu)). She can enroll them in a non-credit continuing education course. As I mentioned, I would be honored to have someone from FIU visit our Sim Lab at your convenience.
2. I received the information from Dr. Levy on the FIU Aerospace Engineering Certificate. We'll review and see how we can incorporate this in our overall academic program offering options for students.
3. Dean Henderson is better positioned to review the Construction Management articulation agreement.
4. I have received the Engineering Management in Logistics Information Session information from Ms. Tice. We will forward this on to our fourth semester BAS students and encourage them to attend.

As we discussed, and to confirm, FIU does not plan on offering, and is in support of BC's plan to offer, a Bachelor of Science in Aerospace Sciences. This is a non-engineering degree targeting professional pilots, and aviation industry leadership positions. Your kind confirmation of that is greatly appreciated.

Best regards,

Russ

**Russell N. McCaffery**

Dean

Transportation Programs



Broward College  
7200 Pines Blvd., Bldg. 99  
Pembroke Pines, FL 33024  
Office 954-201-8085  
[www.broward.edu](http://www.broward.edu)



**From:** Kimberly Durham [<mailto:durham@nova.edu>]  
**Sent:** Wednesday, March 19, 2014 10:23  
**To:** S. Sean Madison  
**Cc:** Russell Mccaffery  
**Subject:** RE: Thank You

Thank you Dr. Madison. It was a pleasure to meet both you and Dean Mccaffery. And I too look forward to further discussions regarding collaboration on a Master's degree.

If I can be of any further assistance to either of you, please don't hesitate to ask.

My very best,  
Kim

Kimberly Durham, PSY.D.  
Dean  
Institute for the Study of Human Service, Health and Justice  
Division of Applied Interdisciplinary Studies  
Nova Southeastern University  
3301 College Avenue  
Jim and Jan Moran Building, Room 2266  
Ft. Lauderdale, Florida 33314  
Tel: 1-800986-3223, ext. 28601  
Tel: 1-954-262-8601  
Fax: 1-954-262-2361  
Web: <http://www.nova.edu/humanservices>  
Nova Southeastern University/Broward Sheriff's Office Partnership <http://nsubso.nova.edu>  
Center for Applied Research on Substance Use and Health Disparities at Nova Southeastern University  
[www.arsh.nova.edu](http://www.arsh.nova.edu)  
Quality of Life Applied Research at Nova Southeastern University <http://qol.nova.edu>

**From:** S. Sean Madison [<mailto:smadison@broward.edu>]  
**Sent:** Monday, March 17, 2014 5:24 PM  
**To:** Kimberly Durham  
**Cc:** Russell Mccaffery  
**Subject:** Thank You

Dr. Durham –

Please accept my appreciation for the time that you spent this afternoon in discussion with Dean McCaffery and me. I certainly enjoyed learning more about your programs in Human Factors and Human Services Administration, and I hope that we can continue the conversation about opportunities to create a degree pathway into your planned Master's degree program.

Look forward to forging a stronger partnership!

*Sean*

Dr. S. Sean Madison, Campus President  
Judson A. Samuels South Campus  
Broward College

Page 9 - Attachment C

7200 Pines Boulevard  
Pembroke Pines, Florida 33024

[smadison@broward.edu](mailto:smadison@broward.edu)

Office: 954-201-8800





Captain Steven A. Briner  
Director of Flight Operations  
11495 Navaid Road, Suite 340  
Bridgeton, Missouri 63044  
314.222.4390 office  
314.357.0327 mobile  
sbriner@gojetairlines.com

February 15, 2013

Mr. Randall W. Hanna  
Chancellor, Division of Florida Colleges  
325 West Gaines Street, Room 1544  
Tallahassee, Florida 32399-0400

Dear Mr. Hanna:

I am writing to recommend that the Florida Department of Education approve the Bachelor of Science in Aerospace Sciences proposed by several Florida State College institutions including Broward College.

Demand for competent and proficient pilots has historically been steady, predictable, and economy-driven; however, accelerated pilot retirements coupled with decreased pilot turnover from the military, has created a looming pilot shortage that has already begun impacting our airline. We currently recruit 12-20 pilots per month.

Additionally, as the airline market grows, the need for more aerospace managers will increase as well. Our airline requires college degrees for both its pilot candidates and for members of our leadership team. In addition, our major airline partners, United and Delta require a four year degree for employment as a pilot. Many of our pilots work for us prior to moving on to our major partners.

Florida is the perfect location for pilot training due to the state's great weather, airspace infrastructure, and available job opportunities. For this reason, Florida is home to many flight training providers offering various levels of certification and recurrent training opportunities. Adding a cost effective bachelor degree option for all of these students would be an excellent addition to the training opportunities already available.

The BS in Aerospace Sciences was developed through the work of the Florida State Colleges Aerospace Consortium, a group consisting of the program directors and academic administrators for the aerospace/aviation programs at Florida State College institutions. By pooling the expertise that exists across the state of Florida, this group developed a curriculum that addresses the complex needs of both today's and tomorrow's advanced aerospace system, offering graduates the skills and experience they need to stand out in a competitive field.

Sincerely,

A handwritten signature in black ink that reads "Steven A. Briner". The signature is written in a cursive, flowing style.

Captain Steven A. Briner  
Director of Flight Operations

# American Eagle® American Airlines®

Aircraft Maintenance

February 13, 2013

Mr. Randall W. Hanna  
Chancellor, Division of Florida Colleges  
325 West Gaines Street, Room 1544  
Tallahassee, Florida 32399-0400

Dear Mr. Hanna:

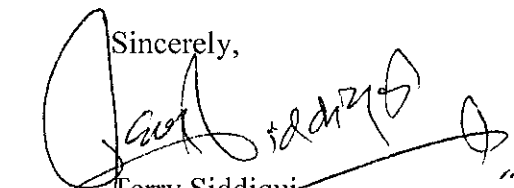
I am writing to recommend that the Florida Department of Education approve the Bachelor of Science in Aerospace Sciences proposed by several Florida State College institutions including Broward College.

Demand for competent and proficient pilots has historically been steady, predictable, and economy-driven; however, accelerated pilot retirements among the baby boomer generation coupled with decreased pilot turnover from the military, has created a looming pilot shortage that has already begun impacting the airline industry. Current pilot demand forecasts from Boeing, the FAA, and other sources demonstrate the need for approximately 500,000 new pilots over the next 20 years, a demand that the current training infrastructure both nationally and in the state of Florida cannot feasibly support. Additionally, as the airline market grows, the need for more professional talented personnel to manage the airlines will increase as well. American Eagle is always seeking pilots with the bachelor's degree to manage and fly their aircraft.

Florida is the perfect location for pilot training due to the state's great weather, airspace infrastructure, and available job opportunities. For this reason, Florida is home to many flight training providers offering various levels of certification and recurrent training opportunities. In fact, the FAA's Orlando Flight Standards District Office process more airmen certification requests than the entire Western half of the country combined. Adding a cost effective bachelor degree option for all of these students would be an excellent addition to the training opportunities already available. While not all pilot and other aerospace positions require a bachelor's degree, more and more airlines and airports are seeking bachelor level education for their future positions. As the aerospace infrastructure continues to increase in complexity, higher level critical thinking skills will be increasingly needed.

The BS in Aerospace Sciences was developed through the work of the Florida State Colleges Aerospace Consortium, a group consisting of the program directors and academic administrators for the aerospace/aviation programs at Florida State College institutions. By pooling the expertise that exists across the state of Florida, this group developed a curriculum that addresses the complex needs of both today's and tomorrow's advanced aerospace system, offering graduates the skills and experience they need to stand out in a competitive field.

Sincerely,



Terry Siddiqui  
Manager – aircraft maintenance  
American Eagle airlines  
Terry.Siddiqui@aa.com



May 6, 2013

**Mr. Randall W. Hanna**  
Chancellor, Division of Florida Colleges  
325 West Gaines Street, Room 1544  
Tallahassee, Florida 32399-0400

Dear Mr. Hanna:

I am requesting the Florida Department of Education approve the Bachelor of Science in Aerospace Sciences proposed by several Florida state colleges.

Demand for competent and proficient pilots has historically been steady, predictable, and economy-driven; however, accelerated pilot retirements among the baby boomer generation, the new rest rules that take effect in January of 2014 and coupled with decreased pilot turnover from the military, has created a perfect storm for a pilot shortage that has already begun impacting the airline industry. Most regional airlines today cannot fill new hire classes. Current pilot demand forecasts from Boeing, UND and the FAA, and other sources demonstrate the need for approximately 500,000 new pilots and 600,000 new maintenance technicians over the next 20 years, a demand that the current training infrastructure both nationally and in the state of Florida cannot feasibly support. Additionally, as the airline market grows, the need for more aerospace managers will increase as well. Over 17,000 major airline pilots will retire within the next 10 years. Historically the major airlines in America hire pilots from regional airlines. There are only 18,000 regional airline pilots in the US so we are on the edge of the biggest hiring event in the history of America.

Florida is the perfect location for pilot training due to the state's great weather, airspace infrastructure, and available job opportunities. For this reason, Florida is home to many flight training providers offering various levels of certification and recurrent training opportunities. In fact, the FAA's Orlando Flight Standards District Office process more airmen certification requests than the entire Western half of the country combined. Adding a cost effective bachelor degree option for all of these students would be an excellent addition to the training opportunities already available. While not all pilot and other aerospace positions require a bachelor's degree, more and more airlines and airports are seeking bachelor level education for their future positions. As the aerospace infrastructure continues to increase in complexity, higher level critical thinking skills will be increasingly needed.

The BS in Aerospace Sciences was developed through the work of the Florida State Colleges Aerospace Consortium, a group consisting of the program directors and academic administrators for the aerospace/aviation programs at Florida State College institutions. By pooling the expertise that exists across the state of Florida, this group developed a curriculum that addresses the complex needs of both today's and tomorrow's advanced aerospace system, offering graduates the skills and experience they need to stand out in a competitive field.

Sincerely,

Dan Robertson  
Manager Pilot Recruiting  
ExpressJet Airlines  
990 Toffie Terrace  
Atlanta, Georgia, 303454

**Paul E. Cassel**  
Senior Vice President

**Flight Operations**  
3131 Democrat Road  
Suite B124  
Memphis, TN 38118

Telephone 901.224.5515  
Mobile 901.359.6912  
Fax 901.224.5561  
pecassel@fedex.com



May 8, 2013

Mr. Randall W. Hanna  
Chancellor, Division of Florida Colleges  
325 West Gaines Street, Room 1544  
Tallahassee, Florida 32399-0400

Dear Mr. Hanna:

I am writing to recommend that the Florida Department of Education approve the Bachelor of Science in Aerospace Sciences proposed by several Florida state colleges.

Demand for competent and proficient pilots has historically been steady, predictable, and economy-driven; however, accelerated pilot retirements among the baby boomer generation coupled with decreased pilot turnover from the military, has created a looming pilot shortage that has already begun impacting the airline industry. Current pilot demand forecasts from Boeing, the FAA, and other sources demonstrate the need for approximately 500,000 new pilots and 600,000 new maintenance technicians over the next 20 years, a demand that the current training infrastructure both nationally and in the state of Florida cannot feasibly support. Additionally, as the airline market grows, the need for more aerospace managers will increase as well.

Florida is the perfect location for pilot training due to the state's great weather, airspace infrastructure, and available job opportunities. For this reason, Florida is home to many flight training providers offering various levels of certification and recurrent training opportunities. In fact, the FAA's Orlando Flight Standards District Office process more airmen certification requests than the entire Western half of the country combined. Adding a cost effective bachelor degree option for all of these students would be an excellent addition to the training opportunities already available. While not all pilot and other aerospace positions require a bachelor's degree, more and more airlines and airports are seeking bachelor level education for their future positions. As the aerospace infrastructure continues to increase in complexity, higher level critical thinking skills will be increasingly needed.

The BS in Aerospace Sciences was developed through the work of the Florida State Colleges Aerospace Consortium, a group consisting of the program directors and academic administrators for the aerospace/aviation programs at Florida State College institutions. By pooling the expertise that exists across the state of Florida, this group developed a curriculum that addresses the complex needs of both today's and tomorrow's advanced aerospace system, offering graduates the skills and experience they need to stand out in a competitive field.

Sincerely,

A handwritten signature in black ink, appearing to read "Paul E. Cassel", written over a horizontal line.

Captain Paul E. Cassel

268038/pf



Anthony Restaino  
FLORIDA AERO CLUB  
8550 NW 24<sup>TH</sup> CT  
Pembroke Pines FL.  
33024



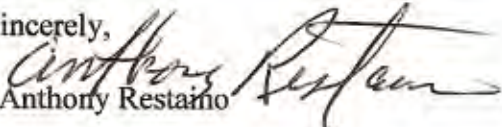
April 18, 2013  
Mr. Randall W. Hanna  
Chancellor, Division of Florida Colleges  
325 West Gaines Street, Room 1544  
Tallahassee, Florida 32399-0400

Dear Mr. Hanna:

I am writing to recommend that the Florida Department of Education approve the Bachelor of Science in Aerospace Sciences proposed by several Florida State College institutions including Broward College.

Florida is the perfect location for pilot training due to the state's great weather, airspace infrastructure, and available job opportunities. For this reason, Florida is home to many flight training providers offering various levels of certification and recurrent training opportunities. In fact, the FAA's Orlando Flight Standards District Office process more airmen certification requests than the entire Western half of the country combined. Adding a cost effective bachelor degree option for all of these students would be an excellent addition to the training opportunities already available. While not all pilot and other aerospace positions require a bachelor's degree, more and more airlines and airports are seeking bachelor level education for their future positions. As the aerospace infrastructure continues to increase in complexity, higher level critical thinking skills will be increasingly needed.

Sincerely,

  
Anthony Restaino



April 22, 2013

Mr. Randall W. Hanna  
Chancellor, Division of Florida Colleges  
325 West Gaines Street, Room 1544  
Tallahassee, Florida 32399-0400

Dear Mr. Hanna:

I am writing to recommend that the Florida Department of Education approve the Bachelor of Science in Aerospace Sciences proposed by several Florida State College institutions including Broward College.

Demand for competent and proficient pilots has historically been steady, predictable, and economy-driven; however, accelerated pilot retirements among the baby boomer generation coupled with decreased pilot turnover from the military, has created a looming pilot shortage that has already begun impacting the airline industry. Current pilot demand forecasts from Boeing, the FAA, and other sources demonstrate the need for approximately 500,000 new pilots over the next 20 years, a demand that the current training infrastructure both nationally and in the state of Florida cannot feasibly support. Additionally, as the airline market grows, the need for more aerospace managers will increase as well. As National Aviation Academy continues to grow, we will be continuously seeking candidates for employment that have earned degrees in the Aerospace Industry. These candidates possess the education that make for excellent flight training staff members.

Florida is the perfect location for pilot training due to the state's great weather, airspace infrastructure, and available job opportunities. For this reason, Florida is home to many flight training providers offering various levels of certification and recurrent training opportunities. In fact, the FAA's Orlando Flight Standards District Office processes more airmen certification requests than the entire Western half of the country combined. Adding a cost effective bachelor degree option for all of these students would be an excellent addition to the training opportunities already available. While not all pilot and other aerospace positions require a bachelor's degree, more and more airlines and airports are seeking bachelor level education for their future positions. As the aerospace infrastructure continues to increase in complexity, higher level critical thinking skills will be increasingly needed.

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Sincerely,

Chris Couture  
Director of Flight Operations  
National Aviation Academy



1100 Lee Wagener Boulevard, Suite 200  
Ft. Lauderdale, FL 33315

gosilver.com

April 19, 2013

Mr. Randall W. Hanna  
Chancellor, Division of Florida Colleges  
325 West Gaines Street, Room 1544  
Tallahassee, Florida 32399-0400

Dear Mr. Hanna:

I am writing to recommend that the Florida Department of Education approve the Bachelor of Science in Aerospace Sciences proposed by several Florida State College institutions including Broward College.

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Sincerely,

A handwritten signature in black ink, appearing to read "David T. Querio". The signature is fluid and cursive, with a large initial "D" and a long, sweeping underline.

David T. Querio  
Chief Operating Officer





<b>CHAIRPERSON</b> WorkForce One Council of Elected Officials <b>Mayor Jack Seiler</b> City of Fort Lauderdale	<b>VICE CHAIRPERSON</b> WorkForce One Council of Elected Officials <b>Mayor Peter Bober</b> City of Hollywood	<b>CHAIRPERSON PRO TEM</b> WorkForce One Council of Elected Officials <b>Commissioner Tim Ryan</b> Board of County Commissioners	<b>CHAIRPERSON</b> Broward Workforce Development Board, Inc. <b>Pamela Sands</b>	<b>PRESIDENT/CEO</b> WorkForce One Employment Solutions <b>Mason C. Jackson</b>
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April 29, 2013

Mr. Randall W. Hanna  
Chancellor, Division of Florida Colleges  
325 West Gaines Street, Room 1544  
Tallahassee, Florida 32399-0400

Dear Mr. Hanna:

I am writing to recommend that the Florida Department of Education approve the Bachelor of Science in Aerospace Sciences proposed by several Florida State College institutions including Broward College.

Demand for competent and proficient pilots has historically been steady, predictable, and economy-driven; however, accelerated pilot retirements among the baby boomer generation coupled with decreased pilot turnover from the military, has created a looming pilot shortage that has already begun impacting the airline industry. Current pilot demand forecasts from Boeing, the FAA, and other sources demonstrate the need for approximately 500,000 new pilots over the next 20 years, a demand that the current training infrastructure both nationally and in the state of Florida cannot feasibly support. Additionally, as the airline market grows, the need for more aerospace managers will increase as well. Since Aerospace/Aviation is one of the targeted growth industries in Broward County, WorkForce One Employment Solutions has been a strong supporter of Broward College's Aviation Associate of Sciences and Certificate Programs. We further support the proposed Bachelor of Science in Aerospace Sciences as a continuing development of career ladders in this industry.

Florida is the perfect location for pilot training due to the state's great weather, airspace infrastructure, and available job opportunities. For this reason, Florida is home to many flight training providers offering various levels of certification and recurrent training opportunities. In fact, the FAA's Orlando Flight Standards District Office process more airmen certification requests than the entire Western half of the country combined. Adding a cost effective bachelor degree option for all of these students would be an excellent addition to the training opportunities already available. While not all pilot and other aerospace positions require a bachelor's degree, more and more airlines and airports are seeking bachelor level education for their future positions. As the aerospace infrastructure continues to increase in complexity, higher level critical thinking skills will be increasingly needed.

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Sincerely,

Mason C. Jackson  
President/CEO  
WorkForce One Employment Solutions

Alpine Financial Resources LLC  
3405 Windsor Place  
Boca Raton, Fl. 33496

August 19,2016

Ms. Madeline Pumariega  
Chancellor, Division of Florida Colleges  
325 West Gaines Street, Room 1544  
Tallahassee, Florida 32399-0400

Dear Ms. Pumariega:

I am writing to recommend that the Florida Department of Education approve the Bachelor of Science in Aerospace Sciences proposed by Broward College.

Demand for competent and proficient pilots and aviation managers has historically been steady, predictable, and economy-driven; however, accelerated pilot retirements among the baby boomer generation coupled with decreased pilot turnover from the military, has created a looming pilot shortage that has already begun impacting the airline industry. Current pilot demand forecasts from Boeing, the FAA, and other sources demonstrate the need for approximately 500,000 new pilots over the next 20 years, a demand that the current training infrastructure both nationally and in the state of Florida cannot feasibly support. Additionally, as the airline market grows, the need for more aerospace managers will increase as well.

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Sincerely,  
Peter Zutty  
President



August 18, 2016

Ms. Madeline Pumariega  
Chancellor, Division of Florida Colleges  
325 West Gaines Street, Room 1544  
Tallahassee, Florida 32399-0400

Dear Ms. Pumariega,

I am writing to recommend that the Florida Department of Education approve the Bachelor of Science in Aerospace Sciences proposed by Broward College.

The aviation/space industry has been seeing a shortage of competent, qualified Aerospace professionals. This is due to a surge of increased activity with the industry coming out of a long recession in which many highly qualified professionals were retiring without being replaced. The recruiters at our airline are having a very difficult time finding candidates to fill our newly opened positions.

We at Amerijet International have worked with Broward College addressing the industry demands as well as hiring the graduates from there. We feel that the school, with their close relationship with the industries of the aerospace community, has already shown their ability to fill the needs of aviation as well as the dreams of their students.

Sincerely,

Captain Ed Cook  
Chief Pilot  
Amerijet International  
305-704-9663  
[ecook@amerijet.com](mailto:ecook@amerijet.com)

EC/vp



August 23, 2018

Ms. Madeline Pumariega  
Chancellor, Division of Florida Colleges  
325 West Gaines Street, Room 1544  
Tallahassee, Florida 32399-0400

Dear Ms. Pumariega,

I am writing to recommend that the Florida Department of Education approve the Bachelor of Science in Aerospace Sciences degree program proposed by Broward College.

Demand for competent and proficient pilots and aviation managers has historically been steady, predictable, and economy-driven; however, accelerated pilot retirements among the baby boomer generation coupled with decreased pilot turnover from the military, has created a looming pilot shortage that has already begun impacting the airline industry. Current pilot demand forecasts from Boeing, the FAA, and other sources demonstrate the need for approximately 500,000 new pilots over the next 20 years, a demand that the current training infrastructure both nationally and in the state of Florida cannot feasibly support. Additionally, as the airline market grows, the need for more aerospace managers will increase as well. As Broward County's official public/private partnership for economic development, the Alliance's goal is to grow jobs and capital investment in Broward County, contributing to an enhanced quality of life in our communities. The Aerospace Sciences degree program will serve as an exceptional tool to provide an infrastructure of growth for the growing aviation and aerospace industry, one of our region's most important industries on a number of fronts.

Florida is the perfect location for pilot training due to the state's great weather, aviation infrastructure, and available job opportunities. For this reason, Florida is home to many flight training providers offering various levels of certification and recurrent training opportunities. In fact, the FAA's Orlando Flight Standards District Office process more airmen certification requests than the entire Western half of the country combined. Adding a cost effective bachelor degree option for students would be an excellent addition to the training opportunities already available. While not all pilot and other aerospace positions require a bachelor's degree, more and more airlines and airports are seeking bachelor-level education for their future positions. As the aerospace infrastructure continues to increase in complexity, higher level critical thinking skills will be increasingly needed in this important and growing industry.

Thank you for your consideration.

With warm personal regards, I remain

Sincerely,



Bob Swindell  
President and CEO





## Pompano Aviation

2785 S.E. 11 Street ~ Pompano Beach, Florida 33062

Phone: (954) 785-6085 Fax: (954) 788-9362

Email: usconstruction@aol.com

Date 8/17/16

Ms. Madeline Pumariega  
Chancellor, Division of Florida Colleges  
325 West Gaines Street, Room 1544  
Tallahassee, Florida 32399-0400

Dear Ms. Pumariega:

I am writing to recommend that the Florida Department of Education approve the Bachelor of Science in Aerospace Sciences proposed by Broward College.

Demand for competent and proficient pilots and aviation managers has historically been steady, predictable, and economy-driven; however, accelerated pilot retirements among the baby boomer generation coupled with decreased pilot turnover from the military, has created a looming pilot shortage that has already begun impacting the airline industry. Current pilot demand forecasts from Boeing, the FAA, and other sources demonstrate the need for approximately 500,000 new pilots over the next 20 years, a demand that the current training infrastructure both nationally and in the state of Florida cannot feasibly support. Additionally, as the airline market grows, the need for more aerospace managers will increase as well.

This year Broward County Schools contracted with the Gaetz Aerospace program to allow dual enrollment at **all** of the High Schools in the County. One of the Questions the School Board representatives had was what happens after High School? How can the students continue their education in Aerospace? The Broward College 4 year degree would be consistent with the High School initiative that has been recently approved.

In the last 5 years I have developed two Fixed Base Operations at the Pompano Beach Airpark. These two projects employ roughly 200 individuals in the Aviation Industry including pilots, mechanics and radio repair shops. We have 5 separate maintenance facilities all which are working 7 days a week and looking for more employees. The flight schools are extremely busy and having a hard time in keeping up for demand.

A four year aerospace degree would be a great benefit in Broward County, be consistent with local education initiatives and keep our students from leaving the county to continue their aerospace education.


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Additionally, access to an extensive talent pool of aviation professionals is critical to our success and growth as a company in Broward County.

The BS in Aerospace Sciences was developed through the work of the Florida State Colleges Aerospace Consortium, a group consisting of the program directors and academic administrators for the aerospace/aviation programs at Florida State College institutions. By pooling the expertise that exists across the state of Florida, this group developed a curriculum that addresses the complex needs of both today's and tomorrow's advanced aerospace system, offering graduates the skills and experience they need to stand out in a competitive field.

Sincerely,

**Pompano Aviation, LLC**



Gregory L. Spatz  
Managing Member





August 20, 2016

Ms. Madeline Pumariega  
Chancellor, Division of Florida Colleges  
325 West Gaines Street, Room 1544  
Tallahassee, Florida 32399-0400

Dear Ms. Pumariega:

I am writing to recommend that the Florida Department of Education approve the Bachelor of Science in Aerospace Sciences proposed by Broward College.

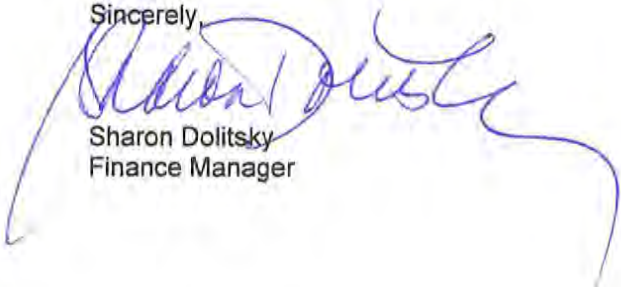
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Florida is the perfect location for pilot training due to the state's great weather, aviation infrastructure, and available job opportunities. For this reason, Florida is home to many flight training providers offering various levels of certification and recurrent training opportunities. In fact, the FAA's Orlando Flight Standards District Office process more airmen certification requests than the entire Western half of the country combined. Adding a cost effective bachelor degree option for students would be an excellent addition to the training opportunities already available. While not all pilot and other aerospace positions require a bachelor's degree, more and more airlines and airports are seeking bachelor-level education for their future positions. As the aerospace infrastructure continues to increase in complexity, higher level critical thinking skills will be increasingly needed.

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Sincerely,



Sharon Dolitsky  
Finance Manager

August 16, 2016

Ms. Madeline Pumariega  
Chancellor, Division of Florida Colleges  
325 West Gaines Street, Room 1544  
Tallahassee, Florida 32399-0400

Dear Ms. Pumariega:

I am writing to recommend that the Florida Department of Education approve the Bachelor of Science in Aerospace Sciences proposed by Broward College.

Demand for competent and proficient pilots and aviation managers has historically been steady, predictable, and economy-driven; however, accelerated pilot retirements among the baby boomer generation coupled with decreased pilot turnover from the military, has created a looming pilot shortage that has already begun impacting the airline industry. Current pilot demand forecasts from Boeing, the FAA, and other sources demonstrate the need for approximately 500,000 new pilots over the next 20 years, a demand that the current training infrastructure both nationally and in the state of Florida cannot feasibly support. Additionally, as the airline market grows, the need for more aerospace managers will increase as well.


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Sincerely,

A handwritten signature in black ink that reads "V.J. Bontorno" with a stylized flourish at the end. The signature is contained within a thin black rectangular border.

Victor Bontorno  
President



August 19, 2016

Ms. Madeline Pumariega  
Chancellor, Division of Florida Colleges  
325 West Gaines Street, Room 1544  
Tallahassee, Florida 32399

Dear Ms. Pumariega,

I am writing to recommend that the Florida Department of Education approve the Bachelor of Science in Aerospace Sciences proposed by Broward College.

The documented current need for pilots and aviation professionals coupled with the projected future shortage threatens to adversely impact the aviation transportation sector of our nation. The opportunity to offer this bachelor's degree to our local student population will help position them for success in the high paying aviation employment sector.

The Broward County school system has taken concrete steps to help expose our local high school students to a possibility in the aerospace industry. They have contracted with the Gaetz Aerospace program to offer dual enrollment at all Broward County high schools. The addition of the Broward College 4 year degree program would allow our local students to continue their education in the aerospace field.

Thank you for your consideration and, hopefully, support.

Sincerely,



Rex Hardin



# PTR

Professional Technology Repairs

August 16, 2016

Ms. Madeline Pumariega  
Chancellor, Division of Florida Colleges  
325 West Gaines Street, Room 1544  
Tallahassee, Florida 32399-0400

Dear Ms. Pumariega:

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12200 NW 25th<sup>th</sup> Street | Suite 100 | Miami, Florida 33182 | Tele: 305-234-8844 | Fax: 305-234-8841



# PTR

Professional Technology Repairs

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Sincerely,

Frank Matos,

SR VP of Sales & Marketing

12200 NW 25th<sup>th</sup> Street | Suite 100 | Miami, Florida 33182 | Tele: 305-234-8844 | Fax: 305-234-8841





**Southeast Turbines, Corporation**  
2600 N.W. 55th Court, Suite 240  
Fort Lauderdale, Florida 33309  
Tel: 954.491.8119  
Fax: 954.491.8117  
southeastturbines.com

August 19, 2016

Ms. Madeline Pumariega  
Chancellor, Division of Florida Colleges  
325 West Gaines Street, Room 1544  
Tallahassee, Florida 32399-0400

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Demand for competent and proficient pilots and aviation managers has historically been steady, predictable, and economy-driven; however, accelerated pilot retirements among the baby boomer generation coupled with decreased pilot turnover from the military, has created a looming pilot shortage that has already begun impacting the airline industry. Current pilot demand forecasts from Boeing, the FAA, and other sources demonstrate the need for approximately 500,000 new pilots over the next 20 years, a demand that the current training infrastructure both nationally and in the state of Florida cannot feasibly support. Additionally, as the airline market grows, the need for more aerospace managers will increase as well. Candidates entering the workforce with a bachelor's degree with a concentration in Aviation will certainly enable businesses to fill management positions and grow the local economy. Southeast Turbines Corporation would certainly be interested in hiring graduates with a Bachelor of Science degree in Aerospace Sciences.

Florida is the perfect location for pilot training due to the state's great weather, aviation infrastructure, and available job opportunities. For this reason, Florida is home to many flight training providers offering various levels of certification and recurrent training opportunities. In fact, the FAA's Orlando Flight Standards District Office process more airmen certification requests than the entire Western half of the country combined. Adding a cost effective bachelor degree option for students would be an excellent addition to the training opportunities already available. While not all pilot and other aerospace positions require a bachelor's degree, more and more airlines and airports are seeking bachelor-level education for their future positions. As the aerospace infrastructure continues to increase in complexity, higher level critical thinking skills will be increasingly needed.

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Sincerely,

A handwritten signature in black ink, appearing to read "Louis A. Velasquez", is written over the word "Sincerely,".

Louis A. Velasquez  
Director of Operations  
Southeast Turbines Corporation

TAF  
Taking Aviation Forward, LLC

PO Box 246473  
Pembroke Pines, FL 33024

Date: August 16<sup>th</sup>, 2016

Ms. Madeline Pumariega  
Chancellor, Division of Florida Colleges  
325 West Gaines Street, Room 1544  
Tallahassee, Florida 32399-0400

Dear Ms. Pumariega:

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Sincerely,

Konrad J Walter  
TAF President & CEO



August 22, 2016

Ms. Madeline Pumariega  
Chancellor, Division of Florida Colleges  
325 West Gaines Street, Room 1544  
Tallahassee, Florida 32399-0400

Dear Ms. Pumariega:

I am writing to recommend that the Florida Department of Education approve the Bachelor of Science in Aerospace Sciences degree program proposed by Broward College.

Demand for competent and proficient pilots and aviation managers has historically been steady, predictable and economy-driven; however, accelerated pilot retirements among the “baby-boomer generation”, coupled with decreased pilot turnover from the military, has created a looming pilot shortage that has already begun impacting the airline industry.

Current pilot demand forecasts from Boeing, the FAA and other sources demonstrate the need for approximately 500,000 new pilots over the next 20 years, a demand that the current training infrastructure both nationally and in the state of Florida cannot feasibly support. Similar demand is expected for aircraft maintenance technicians. Additionally, as the airline market grows the need for more aerospace managers will increase as well.

Although VLF Aviation Services, LLC is not specifically located in Broward County, the entire South Florida aviation community, as well as aviation throughout the country, will be affected by these challenges. I am sure that future growth of our company will benefit from an aerospace bachelor's degree, when considering candidates for positions here.

Florida is the perfect location for pilot training due to the state's excellent weather, aviation infrastructure and available job opportunities. For this reason, Florida is home to many flight training providers offering various levels of certification and recurrent training opportunities. In fact, the FAA's Orlando Flight Standards District Office processes more airmen certification requests than the entire western half of the country. Adding a cost-effective bachelor degree option for students would be an excellent addition to the training opportunities already available at Broward College. While not all pilot and other aerospace positions require a bachelor's degree, more and more airlines and airports are seeking bachelor-level education for their future positions. As the aerospace infrastructure continues to increase in complexity, higher level critical-thinking skills will be increasingly needed.

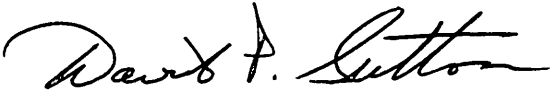
Additionally, access to an extensive talent pool of aviation professionals is critical to our success and growth as a company in South Florida.



The BS in Aerospace Sciences was developed through the work of the Florida State Colleges Aerospace Consortium, a group consisting of the program directors and academic administrators for the aerospace/aviation programs at Florida State College institutions. By pooling the expertise that exists across the state of Florida, this group developed a curriculum that addresses the complex needs of both today's and tomorrow's advanced aerospace system, offering graduates the skills and experience required for them to stand out in a competitive field.

Thank you for your consideration of this important program proposal. Do not hesitate to contact me if you would like to discuss this further.

Sincerely,

A handwritten signature in black ink that reads "David P. Sutton". The signature is written in a cursive style with a large, sweeping initial "D".

David P. Sutton  
President & CEO  
VLF Aviation Services, LLC

**From:** [Anthony Abbate](#)  
**To:** [Russell Mccaffery](#)  
**Cc:** [Diane Alperin](#); [Mohammad Ilyas](#)  
**Subject:** RE: Coordination Meeting  
**Date:** Tuesday, July 16, 2013 17:35:33

---

Dear Russ

To my knowledge FAU has no plans for a similar degree in Aerospace Sciences. Thank you for asking!  
I will contact our College of Engineering and Computer Science to determine if there is a possibility for any related opportunities for your graduates and let you know.

Best wishes,

Tony

**Anthony Abbate AIA NCARB**

Associate Provost for the Broward Campuses  
Professor | School of Architecture  
Florida Atlantic University

<http://www.fau.edu/broward>

**Please note that content shared or posted may be subject to Florida's Public Records Law.**

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**From:** Russell Mccaffery [rmccaffe@broward.edu]  
**Sent:** Thursday, July 11, 2013 11:51 AM  
**To:** Anthony Abbate  
**Subject:** Coordination Meeting

Mr. Abbate,

I hope this email finds you well!

We met briefly several months back when we toured your SeaTech facility.

Unrelated to that visit and facility, I was wondering if you would have some time within the next few weeks to meet to discuss BC's plans to begin offering a BS in Aerospace Sciences degree. I don't believe that FAU has a similar degree, but I'd like to stop by to confirm that, to see if you are considering any such plans, and to see if there might be partnership opportunities which could mutually benefit our students.

Please let me know if you are available to meet. I'd be happy to come to your office.

Warmest regards,

Russ

**Russell N. McCaffery**

Dean

Transportation Programs



Broward College  
7200 Pines Blvd., Bldg. 99  
Pembroke Pines, FL 33024  
Office 954-201-8085  
[www.broward.edu](http://www.broward.edu)

**From:** [Amir Mirmiran](#)  
**To:** [Cesar Levy](#); [Russell Mccaffery](#)  
**Subject:** RE: Our meeting today  
**Date:** Tuesday, February 18, 2014 09:27:47  
**Attachments:** [image005.png](#)  
[image008.png](#)

---

Same here at the College of Engineering and Computing. I am not aware of any such program elsewhere within FIU either.

**Amir Mirmiran, PhD, PE, Fellow ASCE, Fellow ACI**  
Dean and Vasant H. Surti Professor  
*CELEBRATING*



10555 West Flagler St, Engineering Center 2477, Miami, FL 33174  
Tel (305) 348-2522, Fax (305) 348-1401, Email: [mirmiran@fiu.edu](mailto:mirmiran@fiu.edu)  
URLs: [Home Page](#), [Google Scholar](#), [Department](#), [College](#), [University](#)



Please consider the environment before printing this email

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**From:** Cesar Levy  
**Sent:** Tuesday, February 18, 2014 9:24 AM  
**To:** Russell Mccaffery; Amir Mirmiran  
**Subject:** RE: Our meeting today

This is Dr. Levy,

As far as I know, MME Dept has no plans to offer a BSAS. Don't know what the college plans.

---

**From:** Russell Mccaffery [<mailto:rmccaffe@broward.edu>]  
**Sent:** Tuesday, February 18, 2014 9:10 AM  
**To:** Amir Mirmiran; Donna Henderson  
**Cc:** Cesar Levy; Chin-Sheng Chen; Megan Tice; Mercedes Rueda; Irtishad Ahmad  
**Subject:** RE: Our meeting today

Dr. Mirmiran,

Likewise, it was a pleasure for Dean Henderson and I to meet with you and your colleagues. I know that I certainly learned a lot, and I'm sure that Donna did too.

To respond to your thorough summary below:

1. Yes, FIU students who wish to make use of our flight simulators can do so by contacting Associate Dean Jan Shakespeare ([jshakesp@broward.edu](mailto:jshakesp@broward.edu)). She can enroll them in a non-credit continuing education course. As I mentioned, I would be honored to have someone from FIU visit our Sim Lab at your convenience.
2. I received the information from Dr. Levy on the FIU Aerospace Engineering Certificate. We'll

review and see how we can incorporate this in our overall academic program offering options for students.

3. Dean Henderson is better positioned to review the Construction Management articulation agreement.
4. I have received the Engineering Management in Logistics Information Session information from Ms. Tice. We will forward this on to our fourth semester BAS students and encourage them to attend.

As we discussed, and to confirm, FIU does not plan on offering, and is in support of BC's plan to offer, a Bachelor of Science in Aerospace Sciences. This is a non-engineering degree targeting professional pilots, and aviation industry leadership positions. Your kind confirmation of that is greatly appreciated.

Best regards,

Russ

**Russell N. McCaffery**

Dean

Transportation Programs



Broward College

7200 Pines Blvd., Bldg. 99

Pembroke Pines, FL 33024

Office 954-201-8085

[www.broward.edu](http://www.broward.edu)

---

**From:** Amir Mirmiran [<mailto:mirmiran@fiu.edu>]

**Sent:** Thursday, February 06, 2014 12:15

**To:** Russell Mccaffery; Donna Henderson

**Cc:** Cesar Levy; Chin-Sheng Chen; Megan Tice; Mercedes Rueda; Irtishad Ahmad

**Subject:** Our meeting today

Dear Dean McCaffery and Dean Henderson

It was a great pleasure for me, Dr. Levy and Dr. Chen to meet you at the Pine Center this morning and to learn of Broward College's exciting programs in aviation, supply chain, summer camp, and the Southwest Campus. At our end, we see great opportunities for collaboration, and am summarizing the key points for our follow up:

1. FIU students be able to enroll in flight simulation course at BC
2. BC students in Aviation taking courses at FIU in the aerospace certificate program – Dr. Levy

will send the link on the course list

3. Revisit articulation agreement re Construction Management, especially with the potential move of your program to your Southwest Campus – we should look at possibilities of course alignments (am copying Dr. Ahmad, Director of OHL School of Construction)
4. Information Session for Engineering Management and Logistics to your supply-chain students at your South Campus (Ms. Tice will follow up for a spring information session)

Best

**Amir Mirmiran, PhD, PE, Fellow ASCE, Fellow ACI**  
Dean and Vasant H. Surti Professor  
**CELEBRATING**



10555 West Flagler St, Engineering Center 2477, Miami, FL 33174  
Tel (305) 348-2522, Fax (305) 348-1401, Email: [mirmiran@fiu.edu](mailto:mirmiran@fiu.edu)  
URLs: [Home Page](#), [Google Scholar](#), [Department](#), [College](#), [University](#)



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**Broward College Named One of the  
Top 10 Community Colleges in the Nation.**



Please Note: Due to Florida's very broad public records law, most written communications to or from College employees regarding College business are public records, available to the public and media upon request. Therefore, this email communication may be subject to public disclosure.



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Version: 2014.0.4335 / Virus Database: 3705/7103 - Release Date: 02/18/14





- Mail
- Calendar
- Contacts
- \*\*\*\*\*
- Deleted Items (6)
- Drafts [1]
- Inbox (547)
- Junk E-Mail [6]
- Sent Items

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Reply
 Reply to All
 Forward
 Move
 Delete
 Junk
 Close

## Thank You

### S. Sean Madison

You forwarded this message on 3/18/2014 12:13 PM.

Sent: Monday, March 17, 2014 5:23 PM

To: [durham@nova.edu](mailto:durham@nova.edu)

Cc: [Russell Mcaffery](#)

Dr. Durham –

Please accept my appreciation for the time that you spent this afternoon in discussion with Dean McCaffery and me. I certainly enjoyed learning more about your programs in Human Factors and Human Services Administration, and I hope that we can continue the conversation about opportunities to create a degree pathway into your planned Master's degree program.

Look forward to forging a stronger partnership!

*Sean*

Dr. S. Sean Madison, Campus President

Judson A. Samuels South Campus

Broward College

7200 Pines Boulevard

Pembroke Pines, Florida 33024

[smadison@broward.edu](mailto:smadison@broward.edu)

Office: 954-201-8800





September 18, 2014

Ms. Abbey Ivey  
Director of Academic Affairs  
Florida Department of Education  
325 W. Gaines Street  
Tallahassee, FL 32399-0400

RE: Alternative Proposals Related to Section 1007.33, Florida Statutes  
Broward College: BS Aerospace Sciences

Dear Ms. Ivey,

This letter is to object to this program proposal from Broward College as Everglades University currently offers a Bachelor of Science Degree program in Aviation/Aerospace (formerly called BS Aviation Management & BS in Aviation Technology) and can and does currently accommodate these students as our main campus is located in Boca Raton FL.

We signed the attached agreement with Broward College in 2005 for their AS aviation graduates to go into this program and this program is also offered online.

Please let me know if you require any additional information.

**Boca Raton Campus**

*Main Campus*

5002 T-REX Avenue, #100  
Boca Raton, FL 33431  
tel (561) 912-1211  
toll-free (888) 772-6077  
fax (561) 912-1191

**Sarasota Campus**

*Branch Campus*

6001 Lake Osprey Drive, #110  
Sarasota, FL 34240  
tel (941) 907-2262  
toll-free (866) 907-2262  
fax (941) 907-6634

**Orlando Campus**

*Branch Campus*

887 East Altamonte Drive  
Altamonte Springs, FL 32701  
tel (407) 277-0311  
toll-free (866) 289-1078  
fax (407) 482-9801

Best regards,

Kristi Mollis  
President

cc. Dr. Ed Moore, ICUF President

ARTICULATION AGREEMENT  
FOR A.S. DEGREE GRADUATES IN PROFESSIONAL PILOT TECHNOLOGY, AVIATION  
OPERATIONS, AIRPORT OPERATIONS MANAGEMENT  
AND  
A.A.S. DEGREE GRADUATES IN AVIATION MAINTENANCE MANAGEMENT  
BETWEEN  
EVERGLADES UNIVERSITY AND BROWARD COMMUNITY COLLEGE (BCC)

Everglades University and Broward Community College (BCC) hereby enter into the following agreement governing the matriculation at Everglades University of BCC Associate of Science graduates in Professional Pilot Technology, Airport Operations Management, Aviation Operations and Associate of Applied Science graduates in Aviation Maintenance Management. This agreement is in effect for those BCC graduates who completed their Associate of Science degree in Professional Pilot Technology, Airport Operations Management, or Aviation Operations and who apply and are accepted into the catalog year 2005/2006 program leading to a Bachelor of Science degree in Professional Aviation or Bachelor of Science in Aviation Management or Bachelor of Science in Aviation Technology or those BCC graduates who completed their Associate of Applied Science degree in Aviation Maintenance Management who apply and are accepted into the catalog year 2005/2006 program leading to a Bachelor of Science in Aviation Technology. This agreement dated March 23, 2005, will last for a maximum of five years, after which, both institutions will undertake renegotiations of this agreement. However, the curriculum will be reevaluated on an annual basis to assure continued compliance with each institution's curriculum. Further, this agreement is subject to Everglades University and BCC's continued compliance with all rules and regulations of the Southern Association of Colleges and Schools (SACS) and all other accrediting bodies. Either party may terminate this agreement by giving written notice to the other party. The notice shall state the effective date of termination, which shall be at least four months after the date on which the notice is received by the other party.

For BCC Associate of Science graduates in Professional Pilot Technology, Airport Operations Management or Aviation Operations admitted to the Bachelor of Science in Professional Aviation or Bachelor of Science in Aviation Management or Bachelor of Science in Aviation Technology or BCC Associate of Applied Science graduates admitted to the Bachelor of Science in Aviation Technology, Everglades University will:

1. Transfer the number of credits indicated on the individual Articulation Agreement Transfer Tables into the Everglades curriculum for the Bachelor of Science in Professional Aviation or Bachelor of Science in Aviation Management or Bachelor of Science in Aviation Technology for students who earn their Associate of Science degree in Professional Pilot Technology, Airport Operations Management or Aviation Operations, or earn their Associate of Applied Science in Aviation Maintenance Management.
2. Accept courses taken at BCC with a grade of C or higher.
3. Periodically review the performance of BCC graduates who matriculate at Everglades University assessing academic preparation and success at Everglades University. This data will serve as a criterion for renegotiation of this agreement at the end of the aforementioned five-year period.

As part of this agreement, BCC and Everglades University will:

1. Publicize this agreement among its students and faculty.

**AGENDA ITEM** D-3

MAR 23 2005

**ENCLOSURE** C-1

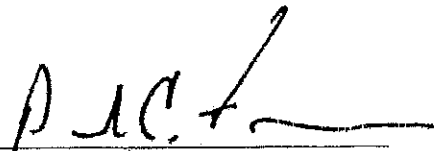
2. In all joint or individual promotions of the BCC/Everglades University 2+2 program, identify BCC as the freshman and sophomore provider and Everglades University as responsible for the junior and senior years and the provider of a college major and baccalaureate degree.
3. Monitor the academic performance of students enrolling under this agreement. Identify problems and work cooperatively to adjust details of course sequence and content so that students can transfer with no academic disruptions.
4. Arrange articulation meetings to identify major course equivalencies between Everglades University and BCC and to train staff on the terms of this agreement.
5. Notify each other concerning any contemplated curricular changes that would affect the future of this agreement. Any curricular changes implemented by BCC affecting BCC's Professional Pilot Technology, Airport Operations Management or Aviation Operations, or Aviation Maintenance Management programs will result in a reevaluation by Everglades University of credit transferability as set forth in the Articulation Agreement Transfer Tables.
6. This is the entire agreement of the parties and may only be amended, modified, or altered by a writing duly executed on behalf of the parties.

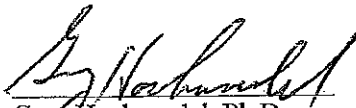
AGENDA ITEM     D-3    

Signature of Responsible Authority at the Cooperating Institutions:


MAR 23 2005


ENCLOSURE     2-1    

  
 Paul C. Tanner, Chairperson,  
 BCC Board of Trustees

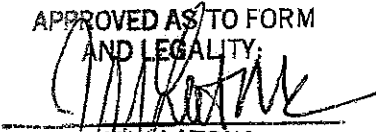
  
 Gery Hochanadel, Ph.D  
 Vice Chancellor  
 Everglades University

    3/23/05      
 Date

  
 Larry A. Calderon, Ph.D., President  
 Broward Community College

  
 Kristi Mollis  
 President  
 Everglades University

    3/23/05      
 Date

APPROVED AS TO FORM  
 AND LEGALITY:  
  
 JOHN LATONA  
 COLLEGE ATTORNEY

# Policy Manual



<b>Title: Closing Educational Programs on Campus, at Off-Campus Centers and at Off-Campus Sites</b>	<b>Number: 6Hx2-4.10</b>
<b>Legal Authority: Fla. Statute 1001.64</b>	<b>Page: 1 of 3</b>

## GENERAL STATEMENT

Broward College (the “College”) offers educational programs on campuses, at off-campus centers, and off-campus sites both in Broward County and at international locations. The purpose of this policy is to ensure that students pursuing degrees are able to complete their program of study in the event that a decision were made to close an educational program, off-campus center or site.

In the event that it becomes necessary to take this action, the College would establish a “teach out” plan in accordance with the Policy Statement of the Commission on Colleges of the Southern Association of Colleges and Schools.

## THE POLICY AND THE STUDENT

In the event that it becomes necessary to close an educational program, center or site, the College will seek to provide the student with the opportunity to fully complete the term and program of study in which they are enrolled.

Permanent records for Broward students are maintained by the College at its District Office in Ft. Lauderdale, FL. These records are accessible to eligible students online. Transcripts of coursework are available via online or mail request. “Teach-out” procedures for guiding the closure of educational programs, on-campus, at off-campus centers or sites, will be equitably applied both in district and at international locations.

## THE POLICY AND THE FACULTY AND STAFF

In the event that a decision were made to close an in-district educational program, center or site, all provisions of the faculty contract pertaining to employment and reduction in force will be maintained. The Broward College Curriculum Committee must review the closing of an educational program. At international sites, since there is no employment of faculty by Broward College, there is no expectation of continued employment or any type of remuneration expected from the College.

## IMPLEMENTATION AND OVERSIGHT

It will be the responsibility of the Vice President for Academic Affairs, working in cooperation with the respective Provost or the Associate Vice President for International Education to

**History:** December 16, 1986 issued as Policy 4.12 *Education Programs Abroad*; revised, retitled, and re-numbered April 16, 1997; revised August 26, 2008; revised January 27, 2009.

<b>Approved by the Board of Trustees</b>	<b>Date:</b> 1/27/09	<b>President’s Signature</b> 	1/27/09
------------------------------------------	-------------------------	----------------------------------------------------------------------------------------------------------------------	---------

# Policy Manual



<b>Title: Closing Educational Programs on Campus, at Off-Campus Centers and at Off-Campus Sites</b>	<b>Number: 6Hx2-4.10</b>
<b>Legal Authority: Fla. Statute 1001.64</b>	<b>Page: 2 of 3</b>

determine when to recommend the closure of a program or off-campus center or site to the President. Such action will not be taken without a thorough evaluation of other programming options and special consideration of the implications for students pursuing degrees which may be enrolled in the program, center, or site at the time. The decision to close a program, center, or site must be made by the District Board of Trustees and communicated to the Commission on Colleges by the President of the College. The President is authorized to issue implementing procedures.

## VIOLATIONS

Violations of this policy may result in disciplinary action up to and including termination.

- For non-represented employees, action will be taken pursuant to the terms and conditions of the relevant employment contract, if applicable.
- For full-time Faculty, refer to the Collective Bargaining Agreement between The Board of Trustees of Broward College and United Faculty of Florida, Broward College Chapter.

## DEFINITIONS

Educational Program - a specific course of studies leading to a degree or certificate at Broward College.

International off-campus site - an overseas institution operating independent of the College which has entered into a Contract for Instructional Services with the College to offer Broward courses and credits for which Broward College has been approved by the Southern Association of Colleges and Schools.

International off-campus center - an overseas institution operating independent of the College which has entered into a Contract for Instructional Services with the College to offer Broward courses and credits where more than 50% of instruction leading to a degree is offered for which Broward College has been approved by the Southern Association of Colleges and Schools.

Off campus site - a location where any Broward College courses are offered whether in district or out of district.

Off-campus center - a location where more than 50% of instruction leading to a degree is offered.

**History:** December 16, 1986 issued as Policy 4.12 *Education Programs Abroad*; revised, retitled, and re-numbered April 16, 1997; revised August 26, 2008; revised January 27, 2009.

<b>Approved by the Board of Trustees</b>	<b>Date:</b> 1/27/09	<b>President's Signature</b> 	1/27/09
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## Policy Manual



<b>Title:</b> Closing Educational Programs on Campus, at Off-Campus Centers and at Off-Campus Sites	<b>Number:</b> 6Hx2-4.10
<b>Legal Authority:</b> Fla. Statute 1001.64	<b>Page:</b> 3 of 3

Teach-out plan - If a decision is made to close an educational program, off-campus site, or off-campus center; the institution must address the needs of currently enrolled students with one of two options:

1. teach out currently enrolled students and no longer admit students to the program, or
2. enter into a contract for another institution or organization to teach out the educational program.

Such a teach-out agreement requires the approval of the Commission on Colleges, Southern Association of Colleges and Schools.

**History:** December 16, 1986 issued as Policy 4.12 *Education Programs Abroad*; revised, retitled, and re-numbered April 16, 1997; revised August 26, 2008; revised January 27, 2009.

**Approved by the  
Board of Trustees**

**Date:**  
1/27/09

**President's Signature**

A handwritten signature in black ink that reads 'J. David Anthony J.'.

1/27/09

# FLORIDA JOBS by Occupation

## Workforce Development Area 22 - Broward County

Occupation		Employment		2015 - 2023			2015		Education Level
				Growth	Percent Growth	Total Job Openings*	Median Hourly Wage (\$)**		
Code	Title	2015	2023						
000000	<b>Total, All Occupations</b>	842,511	938,940	98,271	11.5	260,786	NA	NA	
110000	<b>Management Occupations</b>	36,737	41,017	4,300	11.7	9,950	NA	NA	
113000	<i>Operations Specialties Managers</i>	5,710	6,315	605	10.6	1,421	NA	NA	
113011	Administrative Services Managers	841	956	115	13.7	219	49.69	Associate Degree	
113021	Computer and Information Systems Managers	1,219	1,378	159	13.0	286	65.69	Bachelor's Degree	
113031	Financial Managers	2,057	2,249	192	9.3	492	56.82	Bachelor's Degree	
113051	Industrial Production Managers	427	437	10	2.3	71	47.33	Associate Degree	
113061	Purchasing Managers	218	237	19	8.7	56	50.90	Associate Degree	
113071	<b>Transportation, Storage, and Distribution Managers</b>	<b>365</b>	<b>392</b>	<b>27</b>	<b>7.4</b>	<b>92</b>	<b>37.81</b>	<b>Associate Degree</b>	
113111	Compensation and Benefits Managers	48	52	4	8.3	14	52.84	Associate Degree	
113121	Human Resources Managers	417	479	62	14.9	149	47.80	Bachelor's Degree	
113131	Training and Development Managers	118	135	17	14.4	42	43.70	Associate Degree	

## FLORIDA JOBS by Occupation

### Workforce Development Area 22 - Broward County

Occupation		Employment		2015 - 2023			2015	Education Level
				Growth	Percent Growth	Total Job Openings*	Median Hourly Wage (\$)**	
Code	Title	2015	2023					
530000	<b>Transportation and Material-Moving Occupations</b>	56,040	61,996	5,964	10.6	17,975	NA	NA
531031	First-Line Superv. of Material-Moving Vehicle Operators	939	1,037	98	10.4	300	26.51	Postsecondary Vocational
532012	<b>Commercial Pilots</b>	<b>365</b>	<b>393</b>	<b>28</b>	<b>7.7</b>	<b>110</b>	<b>51.99</b>	<b>Postsecondary Vocational</b>
532021	Air Traffic Controllers	63	63	0	0.0	22	NA	Postsecondary Vocational
533000	<i>Motor Vehicle Operators</i>	17,704	19,489	1,785	10.1	4,026	NA	NA
533021	Bus Drivers, Transit and Intercity	1,041	1,144	103	9.9	251	16.52	Postsecondary Vocational
533022	Bus Drivers, School or Special Client	1,350	1,449	99	7.3	291	9.66	Postsecondary Vocational
533031	Driver/Sales Workers	2,163	2,319	156	7.2	429	9.84	High School Diploma
533032	Heavy and Tractor-Trailer Truck Drivers	5,238	6,044	806	15.4	1,468	17.80	Postsecondary Vocational
533033	Light Truck or Delivery Services Drivers	5,362	5,666	304	5.7	982	15.40	Postsecondary Vocational
533041	Taxi Drivers and Chauffeurs	2,075	2,333	258	12.4	441	10.72	Less than High School

\* Includes openings due to growth and replacement needs

\*\* Hourly wages for teaching occupations were calculated using a 40-hour work week for 9½ months per year.

NA - Not available for this occupation