

**DATE:** July 26, 2018

**SUBJECT:** New Academic Program  
 University of Memphis  
 Commercial Aviation, Bachelor of Science  
 (CIP 49.0101—Aeronautics/Aviation/Aerospace and Technology)

**ACTION RECOMMENDED:** Approval

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**PROGRAM DESCRIPTION**

The University of Memphis proposes a Commercial Aviation Bachelor of Science (BS) program designed for students who wish to receive their undergraduate degree while also obtaining their commercial flight training. The program combines courses required by the Federal Aviation Administration (FAA) for flight training as well as general education and appropriate capstone coursework.

The proposed program will be offered by University College in conjunction with the Crew Training International on the Millington campus. Crew Training International (CTI) is an FAA Part 141 – approved flight school specializing in customized, hands-on flight training program. Through a Memorandum of Understanding, the University of Memphis will pay CTI to deliver the flight training instruction. CTI will use FAA certified aircraft for the flight training instruction.

The proposed Commercial Aviation BS program is anticipated to be of interest to former military personnel by highlighting the availability of prior learning assessment and experiential learning credit to reduce degree costs and student debts.

**INSTITUTIONAL GOVERNING BOARD APPROVAL**

The proposed Commercial Aviation BS program was approved by the University of Memphis Board Of Trustees on June 6, 2018.

**PROPOSED IMPLEMENTATION DATE**

Fall 2018

**RELEVANCE TO INSTITUTIONAL MISSION AND STRATEGIC PLAN**

The mission of the University of Memphis focuses on a commitment to interdisciplinary education and collaboration and advancing the community through innovative education programs. The proposed Commercial Aviation BS is uniquely positioned to enhance that opportunity while responding to the local pilot shortage and the needs of the community. This degree also aligns with the State Master Plan to increase the educational attainment levels of Tennesseans by addressing these

major needs: accelerated degree completion for students with a private pilot's license and increased need for aviation workforce.

### **CURRICULUM**

The proposed Commercial Aviation BS program will consist of 120 credit hours, of which 41 hours devoted to general education, 64 for the major field, 9 hours for University College requirement and 6 hours electives. The senior capstone project will be the Flight Instructor Certification course.

Students will pay tuition and fees, including aviation flight fees directly to the University of Memphis. A total of 24 student credit hours are associated with aviation flight fees.

### **PROGRAM PRODUCTIVITY**

The proposed Commercial Aviation BS program at the University of Memphis projects annual enrollment of 5 to 30 students with graduates beginning in year 3. Projections were based on consultation with the Crew Training International.

<b>Year</b>	<b>Full-Time Headcount</b>	<b>Part-Time Headcount</b>	<b>Total Headcount</b>	<b>Graduates</b>
Fall 2018	5	5	10	--
Fall 2019	10	5	15	--
Fall 2020	15	10	25	5
Fall 2021	20	10	30	5
Fall 2022	20	10	30	15

### **PROGRAM DUPLICATION**

Currently, two public universities in Tennessee offer flight training programs. Middle Tennessee State University offers a Bachelor of Science in Aerospace with six concentrations including the professional pilot option. The aviation flight training option at Tennessee State University is offered through the Bachelor of Science in Aeronautical and Industrial Technology program.

Additional aviation programs will play a critical role in addressing the current shortage of pilots. The proposed Commercial Aviation BS program at the University of Memphis will prepare qualified personnel for this industry. The University of Memphis is also uniquely positioned to create a pipeline for future pilots through a partnership with the aviation program at East High Transportation-STEM Academy in Memphis, TN.

### **EXTERNAL JUDGEMENT**

On January 29, 2018, an external review was conducted by Dr. James Higgins, Department Chair and Associate Professor of Aviation in the John D. Odegard School of Aerospace Sciences at the University of North Dakota. In response to the program duplication issue,

Dr. Higgins indicated that “nationwide almost every single collegiate aviation program has experienced rapid growth over the last three years. Most programs are up over 100% in enrollment from their application and admittance rates from 2014-15. There is no reason why this program would not experience the same national trend.”

Overall, Dr. Higgins recommended program approval and stated that “Leveraging and amalgamating [the ability to attract traditionally underrepresented people – a major need in the industry and a close relationship with the university and FedEx – a major presence in the aviation industry] could yield a very impressive outcome and a high-quality program for years to come.”

### **STUDENT DEMAND AND OPPORTUNITIES FOR PROGRAM GRADUATES**

The pilot shortage is well-documented from various sources along with industry support. According to a July 2017 *CNN Money* article, “Over the next two decades, 87 new pilots will need to be trained and ready to fly a commercial airliner every day in order to meet our insatiable demand to travel by air.” Additionally, more than 42 percent of active airline pilots will retire over the next ten years equaling about 22,000 retired pilots. The THEC Academic Program Supply and Occupational Demand Projections for 2012 – 2025 identified a growth in aviation/aeronautics graduates.

As noted in the industry letters of support, the aviation field has evolved with increased technical demand and necessitating the need for better prepared pilots. The general education courses will prepare students for the real world by developing critical thinking skills and problem solving, along with encouraging innovation and creativity.

### **INSTITUTIONAL CAPACITY TO DELIVER THE PROGRAM**

The general education and elective courses will be taught by University of Memphis faculty. Due to the advanced technical knowledge required to administer flight training, the proposed program will rely on the Crew Training International to teach the flight courses. The CTI facility is a recently renovated 20,000 square foot facility that includes individual training rooms and large classrooms. Students will have access to CTI’s aircraft fleet that includes three types of aircraft, all of which feature state-of-the-art avionics and safety features. The primary training aircraft is the Diamond D20-C1 which will be used for the private pilot’s license, instrument rating, and for building time experience necessary for the commercial pilot’s license.

Beginning in year two of program implementation, the University College will hire a faculty member that will also serve as the program coordinator. Students in the proposed Commercial Aviation BS program will have a dedicated academic advisor and access to all student support resources.

## **ASSESSMENT AND POST-APPROVAL MONITORING**

The professional accreditation body for the Commercial Aviation BS program is the Aviation Accreditation Board International (AABI). An annual performance review of the proposed program will be conducted by THEC staff for the first five years following program approval prior to the program being accredited by AABI in 2022. The review will be based on benchmarks established in the approved proposal. At the end of this period, the campus, institutional governing board, and Commission staff will perform a summative evaluation.

The benchmarks assessed in the post-approval monitoring include enrollment and graduation, program cost, progress toward accreditation, and other metrics set by the institution and Commission staff. If benchmarks are not met during the monitoring period, the Commission may recommend that the institutional governing board terminate the program. If additional time is needed and requested by the institutional governing board, the Commission may choose to extend the monitoring period.