

UCC Program Review Committee Summary of Review

Program: Aviation

Date of last review: AY 2007

Date of this review: AY 2021

This program includes the following degrees, minors, and certificates:

- Bachelor of Science in Aviation Flight
- Bachelor of Science in Aviation Management
- Associate in Applied Science in Aviation Technology

Recommendation: This program is found to be viable but with concerns as stated in the report.

The Program Review Committee requests a follow-up review in AY 2023-24 focusing on the concerns expressed in the review report.

This review was forwarded to the department chair and the college dean. Their joint response is attached.

Ohio University Curriculum Committee
External/Internal Academic Program Review

Department of Aviation

December 2020

Reviewers:

1. Aimee Edmondson, Ph.D., Professor and Director for Graduate Studies, E.W. Scripps School of Journalism, Ohio University.
2. Julie White, Ph.D., Professor, Political Science, College of Arts & Sciences, Ohio University
3. Kurt Barnhart, Ph.D., Professor, College of Technology and Aviation, Kansas State University Polytechnic

The Department of Aviation underwent a virtual external/internal program review December 1, 2020. The committee met with departmental leadership, faculty, staff, undergraduate students, Russ College of Engineering Associate Dean for Academics and Acting Department Chair, Deborah McAvoy and Dr. Mei Wei, Dean of the Russ College of Engineering and Technology.

The department was assessed as a whole unit including all degree programs.

1. The program as a whole

- a. Is the current number and distribution of faculty sufficient to carry out the broad overall mission of the program?*

The current level of faculty is categorically insufficient. Excluding flight instruction staff, considering the group 1 and 2 faculty, the student-to-faculty ratio is approximately 70:1. This is far above the peer institutions of approximately 30:1. It is widely recognized that at least one additional full-time group 1 or 2 faculty member is needed and should be filled as quickly as possible. However, it is not clear whether there is a current plan to rectify this situation. Being down two faculty members is making it challenging for the department to carry out its mission.

- b. Is the level of the program's RSCA appropriate for the program given the size of the faculty and the resources available to the program? Is the program's level of external funding at an appropriate level?*

RSCA evidence was not observed; however, given the current faculty teaching load none should be expected.

- c. Is the level of service, outside of teaching, appropriate for the program given its size and the role that it plays in the University and broader communities it interacts with? Is the program able to fulfill its service mission?*

The service provided by the Department of Mechanical Engineering is appropriate and

the program is currently able to fulfill its service mission. The Department has a deep commitment to community engagement through its commitment to help educate the general public in the broader mission of aviation in the state of Ohio.

- d. Does the program have an appropriate level of financial resources, staff, physical facilities, library resources, and technology to fulfill its mission?*

The Department does not have the appropriate level of financial resources for physical facilities and technology. Funding is lagging, resulting in not enough and inadequate equipment compared with its peers. As an example, there is inadequate space for pre/post-flight student briefings, resulting in a lack of privacy for this activity. This is a violation of FERPA regulations.

Further, students, faculty, and staff all report that aircraft scheduling is problematic, and the aircraft needed are often down for maintenance. Hangar space is also potentially a concern. However, due to the virtual nature of the review, this cannot be confirmed. COVID notwithstanding, the number of flight instruction staffing appears to be inadequate based on student reports. Multiple students reported that it was difficult to keep the same flight instructor for more than a few weeks at a time and that oversight of the flight instruction process was lacking. As an example, if a student lost a flight instructor due to turnover, it was up to the individual student to try to find a flight instructor if one was available; if not, a student may go weeks with no assigned flight instructor.

Further, an inordinate load has been assumed by a particular classified staff member in the department who works in flight operations at the airport. This person is advising students, developing critical documents outside their area of expertise and assuming a host of other duties. Although this person is performing in an outstanding manner, completing many tasks that would be expected of a faculty member, clearly this staff member is carrying an undue burden.

2. Undergraduate Program

- a. Is the program fulfilling its service role, adequately preparing non-majors for future coursework and/or satisfying the needs for general education?*

This program generally does not have a service mission for non-major and/or general education students.

- b. Is the program attracting majors likely to succeed in the program? Is the number of majors appropriate for the program? Is the program attracting a diverse group of students?*

Students continue to come to Ohio University specifically to study aviation. Students report that cost is a major factor in choosing Ohio University for their aviation studies. The department continues to attract a solid number of undergraduate students each year, and the retention rate is over 80% which is on par with peer institutions. While the number of majors is on par with peer aviation programs at peer institutions, the faculty to student ratio is far too high.

Because of the relatively few collegiate aviation institutions nationwide, aviation students often travel a greater distance than most students who pursue degree options that are more readily available.

In general, the department of aviation is male dominated with approximately 90% male students. Although efforts have been made to recruit more female students in recent years, more work needs to be done to attract both female and under-represented students as well as faculty/staff. The department has a proud history of women in aviation with notables including Joan Mace, who became an instructor in 1963 and department chair twenty years later. Connie Tobias is another Ohio notable. She ended her 40-year career in 2015, retiring from US Airways as a captain, logging 22,000 flight hours and flying 70 different kinds of aircraft. Efforts to recruit women include: a Women in Aviation student chapter and a female student ambassador to assist with recruiting prospective students to the department.

It was reported during the review team's interviews that the department needs to be more purposeful when it comes to the admission of new students in terms of both numbers and potential to succeed. It was mentioned that there were no additional admission standards for the professional pilot program over and above those required for the university. There were multiple reports that the number of incoming freshmen pursuing an aviation flight education should be limited to a more manageable number given the resources available.

- c. Does the undergraduate curriculum provide majors with an adequate background to pursue discipline-related careers or graduate work following graduation?*

A survey of the curriculum reveals that all program curricula exceed that of peer institutions in terms of breadth and depth, and students desiring to pursue graduate study in the field of aviation would be well-prepared. The program curriculum does seem to be weak in the area of aircraft systems, both basic and advanced. Program curriculum should not rely on ground schools alone for the depth of systems knowledge required by pilots. Should program-specific accreditation be pursued in the future, the curriculum is in a good position to meet those requirements with little or no modification. Pursuing program accreditation is recommended because it provides a check and balance for program quality that supersedes internal reviews and provides a layer of risk protection for program administration in that the program is forced to meet a high level of externally-developed standards for similar programs internationally.

- d. Are the resources and the number of and distribution of faculty sufficient to support the undergraduate program?*

The resources and the number of faculty are not sufficient to support the undergraduate program as discussed in section 1.a of this document.

- e. Are pedagogical practices appropriate? Is teaching adequately assessed?*

The pedagogical practices are appropriate on the academic side of the department. Students reported a very high level of satisfaction with the instruction they received in their on-campus classes and with the full-time faculty members specifically.

f. Are students able to move into discipline-related careers and/or pursue further academic work?

From the data provided this does seem to be the case, although the self-report survey rate of return is lower than expected. The OU average 6-month employment rate is 93% where the peer institution average is a few points higher. Job titles and salaries are as expected with the exception that the team would like to see more evidence of regional airline hiring. Pre-COVID, the demand was exceptionally high for regional airline flight officer positions, and graduates from peer-institutions were receiving direct offers of employment from regional airlines out of school (provided flight time was at least 950 hours) at a significant rate.

3. Areas of Concern

a. Leadership

Currently, both top leadership positions in the department are interim. A permanent department chair with aviation and operational management experience (to oversee flight operations as well as the academic department) is paramount. Not only would this help alleviate the faculty shortage, it will also provide cohesive leadership as the department re-integrates flight and academic operations. The department is stressed. Numerous stakeholders mentioned the need for a permanent chair who understands the nuances of the aviation industry. This person can assist in the better flow of communications between the airport and campus, and between all airport stakeholders.

It should be noted here that this program presents what is likely one of, if not the, highest risk exposure for the university. Freshmen students are admitted and often start flying (including solo flight) during their first semester. The risks of a negative outcome should a mishap occur are real and this program therefore is the program in the university that can least afford to be under-resourced. This is a concern and should be rectified as soon as possible.

b. Recruitment of women and under-represented faculty

The department has no female or under-represented faculty members. To facilitate the recruitment of a corresponding body of students, this should be strategized and prioritized.

c. Private Briefing/De-briefing space

Private space for briefing and debriefing flights should be implemented as soon as possible to avoid a FERPA complaint and ensure that students have privacy when their performance in the airplane is evaluated when back on the ground. The existing cubicle space is inadequate, with dispatch and other students overhearing the conversation. Electronic sound mitigation technologies also are available that may preclude the necessity of constructing sound-proof walls.

d. More structured management of the flight training process

Students reported that the process of scheduling aircraft and flight instructors appears to be at times haphazard and in need of better management. They reported a bottleneck in flight training with a lack of available flight instructors. They reported delays in training due to maintenance issues with the fleet. Students have gone two weeks without flying, when they need to be logging at least three hours per week.

Many institutions employ a flight training manager or assign this function to an existing employee. This person is responsible for ensuring that students are adequately paired with a flight instructor and that they fly regularly. This person follows up with the flight training process, and if things break down, they follow up until the situation is rectified. This helps to ensure that students complete their certificate and/or rating within the desired timeframe. It was reported that a private pilot's license would normally take six months, but some are taking one and a half years, primarily due to department resource and management issues.

e. Fleet standardization

To speed the flight training process for students, better fleet standardization should become a goal. There is a wide variety of aircraft models and configurations in the training fleet. And while this can be an asset for higher time students, those early in their aviation flight career can have their training impeded by having to spend so much time learning different systems and panel layouts.

4. Recommendations

a. Create a Development Strategy for Resourcing Department Needs

Clearly, the department is under-resourced: the central budget and restricted fees may not be able to rectify this situation soon given the current fiscal climate.

With that in mind, a strategy for developing external resources should be undertaken, one that is built around a strategic vision in order to build confidence among potential donors that their resources will be put to a needed and enduring use.

b. Recruitment of women and under-represented faculty

The Department should continue its efforts to identify and recruit highly qualified female faculty. The Russ College should identify strategies to retain female and under-represented faculty members.

c. Department Structure

We recommend the department form a committee with internal and external stakeholder membership to study and recommend the best organizational structure for the department, including whether or not flight operations should be combined under a department chair. There are pros and cons to undertaking that course of action; undertaking a purposeful process to understand the impact at OU would be a step that ensures the best outcome.

5. Commendations

Faculty/Staff dedication and commitment.

Several students mentioned the enthusiasm and respect they had for department faculty; they are reportedly very student-focused and committed to their success. It was also clear that the staff dedication to the mission of the department is far above and beyond the call of duty.

6. Overall judgment: Is the program viable as a whole?

The review committee found the Department of Aviation to be viable, as evidenced by dedicated faculty, engaged, and strongly motivated students that are well-prepared for the post-graduate marketplace. Despite the shortage of faculty members (who are faced with unreasonably high teaching loads) and the limited resources and spaces available to them, the Department is performing efficiently and productively. However, this is not sustainable.

We are pleased to submit this review to the administration at Ohio University. Please do not hesitate to follow up with us with any questions or comments.



OHIO
UNIVERSITY

**Russ College of Engineering
and Technology**

Office of the Dean
Stocker Center 155
1 Ohio University
Athens OH 45701-2979

T: 740.593.1474
F: 740.593.0659
engineering@ohio.edu
www.ohio.edu/engineering

February 10, 2021

Ohio University
University Curriculum Committee

Re: Aviation Program Review

We would like to thank the program review team for dedicating their time to the improvement of our Aviation programs through the review of the associates and bachelor degree programs. We have reviewed the team's report and include herein the response from the Interim Department Chair with input from the Dean.

1. The program as a whole

The review team commented on the higher than average student-to-faculty ratio. The department is working with the Dean and the university in the request to hire at least a group 2 faculty member to reduce the load on the current two group 1 faculty and reduce the student-to-faculty ratio. The student-to-faculty ratio is higher than desired and if undergraduate enrollment increases the ratio will be even higher. Ultimately, it is critical to refill the faculty position that was vacated via retirement in the past academic year within the Department of Aviation.

We also acknowledge the concerns with funding in regards to facilities and equipment. There is space above the first floor of Fuller Training Center to expand the facilities to accommodate pre and post-flight student briefings to meet the needs of FERPA to maintain student privacy. However, the availability of funding is not currently available to provide such additional space.

In terms of flight instructors, the Chief Dispatcher assists students in finding replacement instructors should a departure occur and it is not wholly up to the students to find their own instructor. There have been recent modifications on the flight training requiring stricter policies which has resulted in the departure of several flight instructors. New flight instructors have been recruited under the revised system and are currently following protocols in terms of being available for their students and assuring proper flight training is occurring. A secondary rationale for the departure of flight instructors has been the economy prior to the past year. Recent graduates were recruited to flight instruct at other airports and received pay more than double (\$25 per hour and more) what is offered through our program. The recent economic decline within the airline industry will allow us to maintain our flight instructors as we have previous done. Any major

changes in the flight industry in terms of pilot shortages, will have ramifications on our ability to maintain recent graduates as flight instructors.

There is one classified staff member who serves not only as the Chief Dispatcher, but also advises student and schedules flight slots. She is a tremendous asset but is carrying a heavy workload. It is anticipated that an additional faculty member will be able to not only carry a heavy teaching load but also pick up all the advising from the staff member.

Thus, an additional faculty member becomes critical for the department to carry out the mission of the program.

2. Undergraduate Program

The department is committed to recruiting and retaining female students given the male dominated field of Aviation. There are not any additional admission standards currently for the Aviation program; however, it has been considered to raise the requirements for entry to both improve the academic quality and success of the students as well as to limit the number of students to a more manageable number.

It was discussed that the curriculum was weaker in the area of aircraft systems and it is anticipated that an additional faculty member can certainly strengthen that area in the future. External to fulfilling the Federal Aviation Administration requirements for a Part 141 pilot school, the department has been hesitant to pursue additional accreditation due to the current burden on the faculty and staff of the program. Additional faculty lines would make pursuing a secondary accreditation more feasible.

3. Areas of Concern and Recommendations

The two leadership positions in the department are currently interim. It is agreed that a permanent department chair with aviation experience would be preferable to manage both the flight operations and the academics. At this time, it is not feasible to burden either of the two faculty members with administrative roles as the teaching loads are extremely high. Upon the hiring of an additional faculty member, it is anticipated that the workload of one faculty member can be reduced to accommodate the transition to a permanent department chair. It is also anticipated that this individual can oversee the flight training aspects of the program to facilitate improved communication and coordination for both aspects of the program.

In terms of fleet standardization, the department is constantly attempting to purchase additional aircraft; however, the ability to do so at a reasonable cost is limited due to the availability of aircraft on the market. In order to eliminate

students from learning different aircraft systems and panel layouts, we require while working on their private pilot license students are confined to one plane type.

While it is desirable to hire female faculty, the male dominated nature of the field has yielded few females with advanced degrees in Aviation. If the department is allowed to hire an additional faculty member, the advertisement net for the opening will be broadly cast to infiltrate organizations such as the Women in Aviation group in order to improve the likelihood of female applicants to the faculty position.

As the department moves to hire an additional faculty member and restructure, committees will be utilized to determine the best organizational structure for the department given the constraints of the university.

4. Commendations and Overall Judgment

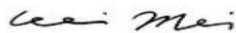
The departmental faculty and staff in Aviation are tremendous and dedicated to the students and it is heartening to have this recognized by an external review committee.

We would like to thank the committee for the tremendous effort put forth to the improvement of the Aviation Department.

Sincerely,



Deborah S. McAvoy, Ph.D., P.E., PTOE
Associate Dean for Academics
Interim Department Chair of Aviation
Russ College of Engineering and Technology
Ohio University
Stocker Center 122
Athens, OH 45701
mcavoy@ohio.edu



Mei Wei, Ph.D.
Dean, Russ College of Engineering and Technology
Ohio University
Stocker Center 55
Athens, OH 45701
weim@ohio.edu