

# **Attachment 1**

## **DEPARTMENT OF AVIATION**

### **Contact person familiar with proposal:**

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### **CERTIFICATE ADDITIONS:**

#### **Avionics Installation Certificate**

##### 1) Purpose:

This certificate program combines four existing aviation courses with two new avionics courses to meet the National Center for Aircraft Technician Training (NCATT) accredited training. It provides students the opportunity to attain the industry's new Aviation Electronics Technician (AET) certificate. One new course, AVT 243, provides a focused introduction to aircraft electricity, navigation and communication, which will give non-A&P students the background needed to work in an avionics career. This program was developed to facilitate delivery of the certificate to non-degree seeking students.

The proposed certificate provides an avionics program within the Department of Aviation that can be expanded beyond the Salina campus, using adjunct faculty.

Overall, this certificate gives students the educational basis and practical experience for placement in the rapidly growing avionics segment of the aviation industry, which supports new technologically advanced aircraft (glass cockpits and advanced avionics). The certificate provides the means for our department to help meet the growing industry employee demand and follows the input provided by our industry partners including our Aviation Advisory Board members.

##### Requirements:

Required Core Courses (13 hours)  
AVM 111. Basic Aircraft Electricity (4)  
AVT 243. Aircraft Electrical, Navigational, and Communication Systems (3)  
AVT 317. Composites I (3)  
AVT 427. Avionics Repair (3)

Elective Courses (6 hours)  
AVT 316. AET and FCC Training (1)  
AVT 315. Advance Avionics (3)  
AVT 428. Avionics Installation (3)  
AVT 430. Advance Avionics Installation (4)

##### 3) Desired outcomes:

The Avionics Installation Certificate Program will prepare students to:

1. Demonstrate skills necessary to perform as an avionics professional
2. Convey an understanding of avionics installation and maintenance within aircraft design, performance, operation, maintenance, inspection, repair and alteration

##### 4) Assessment procedures:

The assessment procedures for the Avionics Installation Certificate program will follow the pre-test and National Center for Aircraft Technician Training (NCATT) Avionics Electronics Technician (AET) computerized test result method as well as the FCC (Federal Communication Commission) element 1 & 3 test as part of the Avionics Installation Certificate completion requirements.

Included below are excerpts of the Aviation Maintenance bachelor's degree (AVMB) assessment procedures for review and to see how our plan operates now and is planned to be used for this program:

**Assessment of Student Learning Three-Year Plan**

1. Aeronautical Technology – Avionics students will be evaluated on the results of initial pre-testing on aviation industry terms, concepts, safety procedures and shop practices. Upon completion of this academic curriculum, the same testing process will be utilized to measure overall aviation knowledge gained from our program. 80% of our students will pass this test on their first try after completing our program.

2. Aircraft design, performance, operation, maintenance, inspection, repair and alteration will be evaluated on the results of successfully completing the successive curriculum requirements for the Avionics courses. This requires a minimum score of 70% on all periodic tests, comprehensive finals and laboratory experiments.

5) Estimated budget and staff required:

Budget requirements are still under development; however, with the most recent faculty hire, the department added a tenure-track assistant professor with extensive industry experience in avionics and knowledgeable of the NCATT accreditation program. Required funding for consumables to sustain training is under development and will be identified as lab fees and in an existing department budget line through the budget process. The department has already funded equipment to support course development and initial equipment acquisition. Adjunct faculty will be used in locations outside of the Salina campus and for the online avionics courses; AVT 243, and AVT 315.

**RATIONALE:**

This certificate program is designed to be offered to non-Airframe and Powerplant certificate holders that are interested in working in the avionics field. There are several potential students interested in avionics but are not interested in getting their Airframe certificates. The program will also allow K-State to offer it at other locations, such as community colleges.

**IMPACT:**

No impact on any other department.

**EFFECTIVE DATE:**

Fall 2010

**Composite Repair Certificate**

1) Purpose:

This certificate program uses existing composite courses to expand the composite subject. It provides students the opportunity to expand their knowledge of composites.

The proposed certificate provides maintenance based composite program within the Department of Aviation. This certificate gives aviation students greater aviation elective options as well as providing a bridge from the airframe and powerplant certificate (APC) and aviation maintenance associate degree (AVM) into the aviation maintenance bachelor degree (AVMB). Additionally, engineering technology students in our college seeking more composite education may pursue this certificate.

Overall, this certificate gives students the educational basis and practical experience for placement in the rapidly growing composite field. The certificate also provides non-traditional students the ability to expand their knowledge. Most important of all, this provides our students with a better educational opportunity.

2) Requirements:

AVT 317 Composites I. (3)  
AVT 400 Composites II. (4)  
AVT 417 Composites III. (3)

3) Desired outcomes:

Directly parallel with the AVMB Desired Outcomes, the Composite Certificate Program will prepare students to:

1. Demonstrate skills necessary to perform as a Composite Professional
2. Convey an understanding of composite maintenance within design, performance, operation, maintenance, inspection, repair and alteration

4) Assessment procedures:

The assessment procedures for the Composite Certificate program are directly parallel with the AVMB Assessment Plan using the pre-test and FAA Airframe & Powerplant (A&P) computerized test results.

Included below are excerpts of the AVMB assessment procedures for review and to see how our plan operates now and is planned to be used for this program.

**Assessment of Student Learning Three-Year Plan**

1. Aeronautical Technology – Aviation Maintenance students will be evaluated on the results of initial pre-testing on aviation industry terms, concepts, safety procedures and shop practices. Upon completion of this academic curriculum, the same testing process will be utilized to measure overall aviation knowledge gained from our program. 80% of our students will pass this test on their first try after completing our program.

2. Aircraft design, performance, operation, maintenance, inspection, repair and alteration will be evaluated on the results of successfully completing the successive curriculum requirements for Aeronautical Technology – Aviation Maintenance courses. This requires a minimum score of 70% on all periodic tests, comprehensive finals and laboratory experiments as established by the Kansas State University Salina FAA Part 147 Certification Manual. This is a direct measure. 80% of our students will pass all program courses on their first attempt.

5) Estimated budget and staff required:

Budget requirements should not change due to the shifting of some of the lab projects from AVT 400 to AVT 417 and the fact that AVT 317 and AVT 400 courses already exist.

**RATIONALE:**

This certificate program uses existing composite course to expand the composite subject. It provides the students the opportunity to expand their knowledge of composites.

This proposed certificate provides maintenance based composite program within the Department of Aviation. This certificate gives aviation students greater aviation elective options as well as providing a bridge from the airframe and powerplant certificate (APC) and aviation maintenance associate degree (AVM) into the aviation maintenance bachelor degree (AVMB) Additionally, engineering technology students in our college seeking more composite education may pursue this certificate.

Overall, this certificate gives the educational basis and practical experience for placement in the rapidly growing composite field. The certificate also provides non-traditional students the ability to expand their knowledge. Most important of all, this provides our students with a better educational opportunity.

**IMPACT:**

No impact on any other department.

**EFFECTIVE DATE:**

Spring 2011