

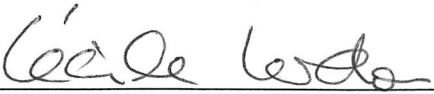
The UAF Faculty Senate passed the following at Meeting #205, March 2, 2015:

MOTION:

The UAF Faculty Senate moves to approve a new minor in Aerospace Engineering, housed in the CEM Department of Electrical and Computer Engineering.

Effective: Fall 2015

Rationale: This new minor will ensure a constant and growing stream of students for academics and research affiliated with UAF aerospace efforts, such as Alaska Space Grant Program (ASGP) and Alaska Center for Unmanned Aircraft Systems Integration (ACUASI). See the program proposal #50-UNP on file in the Governance Office, 312B Signers' Hall.



President, UAF Faculty Senate

APPROVAL: 

Chancellor's Office

DATE: 3/2/15

DISAPPROVED: _____
Chancellor's Office

DATE: _____

Overview:

Formalizing a minor in Aerospace Engineering leverages the interest by students and the community in aeronautics and space systems engineering, including very popular unmanned aircraft systems (UAS) efforts seen in the news. In addition, this program leverages the new UAS joint position between CEM and the GI's Remote Sensing Directorate/Alaska Center for UAS Integration (ACUASI), Dr Michael Hatfield/ECE. This minor will provide increased ability for UAF engineers to highlight their work in a critical engineering field, and will elevate the status of UAF by the aerospace community and potential students. The program will ensure a constant and growing stream of students for academics and research affiliated with UAF aerospace efforts, such as Alaska Space Grant Program (ASGP) and ACUASI.

As a point of reference, this semester, a graduate course in UAS design was offered in ECE (EE493/693), which already has 10 students enrolled—a very solid turnout given the size of the ECE graduate program.

Proposed Minor Requirements:

Aerospace Engineering Minor

1. Complete the following: *
 - ME 451, Aerodynamics—3 credits
 - ME 452, Introduction to Astrodynamics—3 credits
2. Complete three of the following: *
 - ME 450, Theory of Flight—3 credits
 - ME 453, Propulsion Systems—3 credits
 - ME 408, Mechanical Vibrations—3 credits
 - EE 434, Instrumentation Systems—4 credits
 - EE 444, Embedded Systems Design—4 credits
 - EE 471, Fundamentals of Automatic Control or ME409, Controls—3 credits
 - GEOS 422, Geoscience Applications of Remote Sensing—3 credits
3. Minimum credits required—15 credits

Note: This minor may require substantial additional courses for non-ME and non-EE majors.

*These courses have prerequisites that need to be taken into consideration. Students must earn a C- grade or better in each course.

Relationship to Purposes of the University:

This minor will provide increased ability for UAF engineers to highlight their work in a critical engineering field, and will elevate the status of UAF by the aerospace community and potential students. The program will ensure a constant and growing stream of students for academics and research affiliated with UAF aerospace efforts, such as Alaska Space Grant Program (ASGP) and the Alaska Center for Unmanned Aircraft Systems Integration (ACUASI).

This minor supports the desires of UA President, and efforts of local and state leaders to develop a robust aerospace industry in Alaska. Complementary efforts include UAF's ACUASI program and its role as lead entity in the FAA's Pan Pacific UAS Test Range Complex (PPUTRC), as well as the ASGP, Kodiak Space Launch Facility, Poker Flat Research Range (PFRR), and the proposed Alaska UAS Technical Park being coordinated through the state & borough. These activities represent a significant number of highly skilled jobs for Alaska's economy and increasing focus on UAF programs.

Minor program will be overseen by the College of Engineering & Mines. Dr. Michael Hatfield will act as minor coordinator. Dr. Hatfield has previous experience in administering space systems engineering degree at the US Air Force Academy.