

COVER SHEET
EXTENSION OF AN EXISTING PROGRAM NOTIFICATION OF INTENT
(LOCATION NOI)

Part I requires the completion of the following forms: Appendices B-4, B-5, and B-6.

Program Information

Program Name: Department of Aeronautics and Astronautics

Institution Name: University of Washington

Degree Granting Unit: College of Engineering
(e.g. College of Arts & Sciences)

Degree: Bachelor of Aerospace Engineering Level: Bachelor Type: (of) Science
(e.g. B.S. Chemistry) *(e.g. Bachelor)* *(e.g. Science)*

Major: Aerospace Engineering CIP Code: 14.0201
(e.g. Chemistry)

Minor: N/A
(if required for major)

Concentration(s): _____
(if applicable)

Proposed Start Date: Autumn 2013

Projected Enrollment (FTE) in Year One: 36 At Full Enrollment by Year: 2018 ; 71
(#FTE) *(# FTE)*

Proposed New Funding: See proposal for discussion of budget

Funding Source: State FTE Self Support Other

Mode of Delivery / Locations

Campus Delivery _____
(enter locations)

Off-site United Arab Emirates
University facilities, Abu
Dhabi
(enter location(s))

Distance Learning _____
(enter formats)

Other

Note: If the program is the first to be offered at a given site or location, the submission must also include the information required for the establishment of a new teaching site as outlined in section B.1 of the Program and Facility Approval Policy and Procedures.

Scheduling

Day Classes Evening Classes Weekend Classes
 Other *(describe)*

Attendance Options

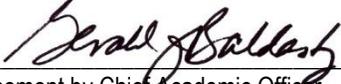
Full-time
 Part-time
Total Credits 90 Quarter Semester

Substantive Statement of Need

Attach Sheet

Contact Information (Academic Department Representative)

Name: James Hermanson
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Endorsement by Chief Academic Officer

April 15, 2011
Date

The Proposed Undergraduate Degree in Aerospace Engineering:

Abu Dhabi

An Executive Summary

The University of Washington is proposing an undergraduate degree completion program in aerospace engineering that will be delivered in Abu Dhabi through an agreement that will last for a ten-year period. The program would not use any state funds and would be primarily funded by the Mubadala Corporation, a company wholly owned by the Crown Prince of Abu Dhabi. Other funders would include the Abu Dhabi federal government and the Abu Dhabi Education Council (ADEC).

This proposed degree would be available only in Abu Dhabi and has been designed for students residing in Abu Dhabi. It would accept students from the region, primarily from the United Arab Emirates University (UAEU), after their first two years of study who meet all the requirements of the University of Washington and the Department of Aeronautics and Astronautics. Starting in 2013-2014, the UW would offer a two-year degree completion program and also work with the UAEU so they could offer their own degree in aerospace engineering by the end of the ten-year agreement. UW classes would be held in the facilities of the UAEU. By 2021-2022, the UW would no longer offer the degree, which would be solely delivered by the UAEU.

Purpose

The University of Washington hopes to achieve three goals in the delivery of this program.

1. Internationalization of Education. This degree will allow UW faculty to work with students in Abu Dhabi to better understand the demands of international education. They will begin to learn and apply pedagogical techniques in the Abu Dhabi classroom that can be transported back to Seattle. The UW will also admit a small number of students (no more than 8 annually) into its regular degree program in Seattle that will further internationalize the UW and the College of Engineering. The students in Seattle will be admitted on a fee basis and will be in addition to the current number of students admitted to the A&A program. They will not displace Washington State residents from the program.

2. Additional Faculty Resources in Seattle. This initiative will result in additional faculty in Seattle who will help improve the quality of education of aeronautics and astronautics students on the Seattle campus. An additional faculty who will deal with design projects, a prerequisite for the completion of the undergraduate degree in A&A, will also add capacity to the Seattle program.
3. International Research Collaborations. Part of the agreement will fund research partnerships between faculty at the UAEU and the UW. This research collaboration will leverage the strengths of these two institutions and lead to international breakthroughs in aeronautical engineering.
4. UW Mission and Brand. We hope that this path breaking program will enhance the brand of the UW as a leader in international education. The combined education/research effort on this scale has never been accomplished before to our knowledge, and will signal the importance of the University of Washington as a world-class international university. It will fulfill one of the main missions of the UW.
5. Trade of Washington State. This program and partnership has been proposed by the Boeing Company to help with their sales of aircraft in Abu Dhabi. We hope that this collaborative effort will assist increased exports for Washington State.

These goals and this program map well to the UW mission of providing access to its resources on an international scale.

Students

The students will be recruited from the United Arab Emirates, primarily from the UAEU. They must attend a local university for two years and then transfer to the UW with all the necessary requirements to be admitted into the program. The admission requirements will mirror the requirements of students who attend the UW and the UW Department of Aeronautics and Astronautics. Based upon several projections, the number of students in Abu Dhabi will progressively increase from 35 to 71 at which point the UW will cease to admit students and will direct students to the new aeronautical engineering program at the UAEU.

Funding

The educational aspects of the partnership, as well as the research part of the agreement, will be funded by the Mubadala Corporation, a company wholly owned by the Crown Prince of Abu Dhabi. In addition to the financial support needed for the undergraduate degree in Abu Dhabi, Mubadala will fund two additional faculty in Seattle who will provide instruction to UW students on campus in Seattle. They will be additional resources for the A&A program in Seattle. The funding requested for the

program includes all direct and indirect expenses as well as overhead to the UW and the College of Engineering. They have guaranteed this funding for the ten-year period.

The funding from Mubadala will serve as a stable source for this fee-based program. Currently, Mubadala owns large parts of several large international companies such as Ferrari and AMD. As a perspective, the Crown Prince and Mubadala keep \$2.3 trillion in cash as a reserve for their investment portfolio.

Faculty

The faculty of the degree program in Abu Dhabi will consist of three types:

- Most of the faculty will be recruited by the UW and the UAEU specifically for this program and will represent the best faculty resources in the U.S. and Europe who will meet the qualifications similar to the requirements to be a faculty member in the UW Department of Aeronautics and Astronautics. They will be paid salaries in excess of their counterparts in Europe and the U.S. During the ten-year partnership, current faculty from the UAEU and the UW will recruit, interview and hire qualified new faculty. These new hires will spend a minimum of two quarters teaching, learning the curriculum and starting research collaborations at the University of Washington in Seattle. After their mentorship in Seattle, they will travel to Abu Dhabi to teach in the UW program with tenure-track status at the UAEU and affiliate status at the UW. This process will start with two or three faculty in year one and repeat until a full contingent of faculty has been hired.
- Current UW tenure-track faculty will travel to Abu Dhabi and teach for a quarter. We expect one or two faculty a year to spend a quarter in Abu Dhabi, teaching in the undergraduate program. They will also consult with the UAEU about the development of their own program in aeronautical engineering.
- Periodically, an industry expert from Boeing, Airbus or another company stationed in the UAEU will teach a class in the UW degree program.

Program Curriculum

The program curriculum will mirror the current degree in aeronautics and astronautics with one exception. Rather than deal with the full gamut of courses, the undergraduate degree program in Abu Dhabi will focus on the current classes in aeronautical engineering. The department may choose to develop one or two new classes for the curriculum. In essence, the new degree will represent a very minor modification of the current curricular content.

As stated above, we expect students to enter the program with 90 credits, including all the UW, College of Engineering and departmental prerequisites. Upon admission,

students would be required to earn 90 more credits to complete the aeronautical engineering degree.

Demand in Abu Dhabi

Abu Dhabi realizes that its stockpile of petroleum will vanish within twenty or thirty years. To diversify their economy, the government has identified a four industries, including aerospace, which will be developed over the next five years.

No program in aeronautical engineering exists in Abu Dhabi. The planned enrollment of the academic program is based on Mubadala aerospace manpower requirements as provided through the consultancy study by Oliver Wyman and updated later by Mubadala. This study shows that by 2020 the total manpower requirements for the UAE aerospace Industry will be approximately 10,000, of which approximately 7,000 will be technical with the remainder being management and administrative staff. These requirements are shown in Fig. 1

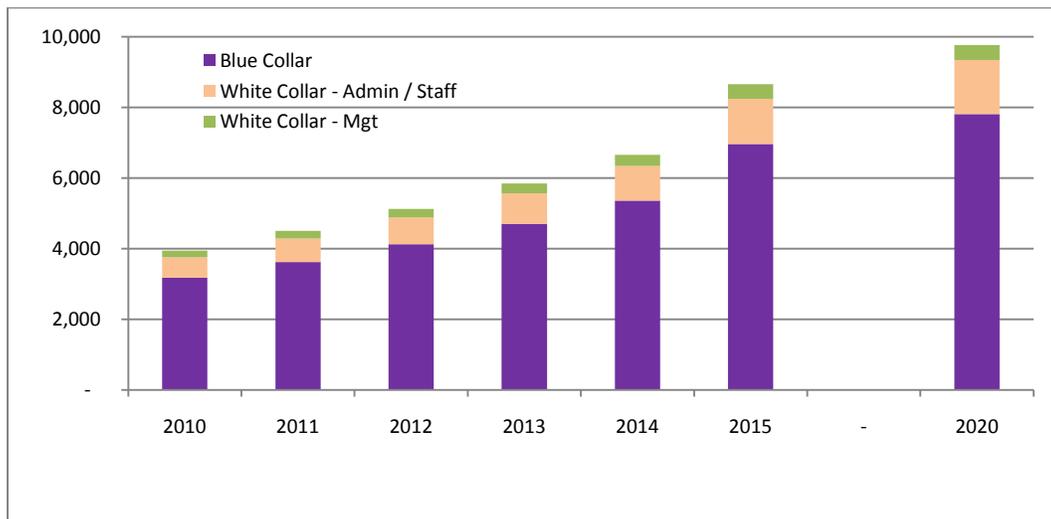


Figure 1 Manpower requirements for the UAE aerospace Industry, source Oliver Wyman, 2008.

According to Oliver Wyman, the current supply of nationals in 2010 shows a need for intervention to bridge the demand-supply gap across talent segments. The ability to bridge the gap without intervention is very low with experienced personnel, and moderately high with those who have university and vocational training. Figure 2 shows the national manpower requirements across the different qualifications.

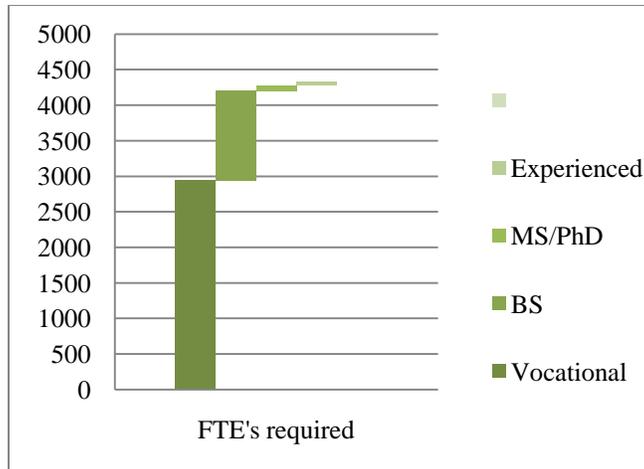


Figure 2 National manpower requirements for the U.A.E. Aerospace Industry

The 2015 need for nationals is 51 experienced (senior level), 71 for holders of M.Sc. and Ph.D., 1,263 university B.Sc. level education, and 2,941 with vocational training.

Based on this study, a need exists eventually for up to 80 aeronautical/aerospace engineers graduating annually and another 20-25 graduates at the M.Sc. level in aerospace and related fields.

UW Degree Oversight

In addition to the UW faculty who travel to Abu Dhabi, the UW will hire and place a program director onsite at Abu Dhabi. This director would be supplemented onsite by a UW advisor, a student services specialist and a staff person.

To recruit faculty and ensure the quality of the curriculum, an A&A faculty member in Seattle would also serve as a Seattle-based program director and have the needed support staff. Both program directors (Abu Dhabi and Seattle) will travel to interface directly with the program in Abu Dhabi and the faculty in Seattle.

The fiscal, administrative and program management staff would be provided by UW Educational Outreach for this fee-based program. UWEO would also assume the financial risk for this fee-based program.

This program has been approved in its entirety by the faculty in Aeronautics and Aerospace, the College of Engineering Education Council and the UW Faculty Council on Academic Standards. The program also has been presented to the UW Board of Regents. We additionally have submitted the appropriate material (A-7) to the accreditation agency, the Northwest Commission on Colleges and Universities.

Facilities and Resources

The program will be held on the campus of the United Emirates University (UAEU), located in Al Ain in Abu Dhabi. UAEU has classrooms and laboratory facilities of equal if not better quality than those on the UW campus. It also has the library and other physical resources needed to deliver the program. UAEU additionally has agreed to find housing for the faculty and will provide office space the UW support staff, mentioned above. UAEU will offer these resources at no cost to the UW.