The Department of Aerospace Engineering is proposing to clarify that 124 credits are required for its undergraduate degree. This change would be mandatory for the graduating class of 2006. The old curriculum as outlined by the Engineering Student Affairs Office is attached. The Department advising form, broken down by semester, outlines the new sample program.

The faculty of the Department of Aerospace Engineering is seeking to impose a minimum 124-credit requirement for the completion of the bachelor’s degree. This request is not actually for an additional requirement, but rather a correction to a loophole that has been created by a change in College rules. Until AY 2002, all engineering students were required to complete a humanities theme, which included related lower-level and upper-level courses. Because the accrediting board (ABET) eliminated the theme requirement, the College also eliminated the requirement. This had the result that an enterprising student can now double count the non-aerospace technical elective as an upper-level CORE, and, with other loopholes, reduce the total number of credits to 120.

The Aerospace faculty believes that our students should take at least one non-technical CORE course per semester, and that the total number of credits required for the degree should not drop below 124. As it is, our program has the smallest number of required credits for an Aerospace degree of any of our peer institutions. The suggested credit limit would be accompanied by an added elective. This would typically be a CORE class, with the goal that students would graduate with the same number of non-technical CORE offerings as was required before the theme was eliminated. For a student who is not double-counting courses, this would represent absolutely no change over previous years’ requirements. For maximum flexibility, the course could also be a technical elective (discouraged but permitted with advisor’s consent), especially to aid students seeking dual degree programs.

The College already has an across-the-board 120-credit requirement. Note that we are explicitly asking for a 124-credit limit, instead of adding a course and retaining the College’s 120-credit limit, so that the advertised course requirements and credit totals will be consistent. We do not want students to see one number for required credits on top of the syllabus page, only to discover that the sum of all of their required courses is a larger number.

It is the Department’s belief that this credit limit would have minimal impact on the majority of our students. Last year, of 57 BS graduates in Aerospace, only one student fell below 124 credits, and that student had completed 122 credits. This limit is therefore imposed to avoid what is already a rare occurrence. We also do not expect that this limit will change the total required credits for a double degree. No additional resources will be required if this is approved.
1. Department Committee Chair ___________________________ signature on file ___________________________

2. Department Chair ___________________________ signature on file ___________________________

3. College/School PCC Chair ___________________________ signature on file ___________________________

4. Dean ___________________________ signature on file ___________________________

5. Dean of the Graduate School (if required) ___________________________

6. Chair, Senate PCC ___________ signature on file ___________________________

7. Chair of Senate ___________________________

8. Vice President for Academic Affairs & Provost ___________________________ signature on file ___________________________

VPAAP Rev. 2/2/98
THE UNIVERSITY OF MARYLAND, COLLEGE PARK
PROGRAM/CURRICULUM PROPOSAL

DIRECTIONS: Provide one form with original approval signatures in lines 1 - 4 for each proposed action. Keep this form to one-page in length. Forms and appropriate attachments should be submitted to the Office of Academic Affairs, who will assign a Log Number to each proposal. Additional copies may be required at a later time.

DATE SUBMITTED September 1, 2003

PCC LOG NO. 03017

COLLEGE/SCHOOL A. James Clark School of Engineering

DEPARTMENT/PROGRAM Aerospace Engineering

PROPOSED ACTION (A separate form for each) ADD_______DELETE_______CHANGE X

DESCRIPTION (Provide a succinct account of the proposed action. Additional detail may be provided in an attachment. Provide old and new sample programs for curriculum changes.)

The Department of Aerospace Engineering is proposing to clarify that 124 credits are required for its undergraduate degree. This change would be mandatory for the graduating class of 2006. The old curriculum as outlined by the Engineering Student Affairs Office is attached. The Department, broken down by semester, outlines the new sample program.

JUSTIFICATION/REASONS/RESOURCES (Explain the reason for the proposed action. Identify the source of new resources that may be required. Attach additional material if needed.)

The department was under the impression that 124 credit hours were being required for getting a BS in Aerospace Engineering and we have been advising our students accordingly. We had reduced the number of credits from 136 to 124 a number of years ago and this was difficult to accomplish. Approximately 2 years ago, due to a change in ABET guidelines the requirement for depth in CORE courses was dropped, and the College reduced the number of credits required by 3. At that time we permitted our students to take those three credits as a "free" elective. That is, the three credits could be any meaningful non-technical course at the 300 or 400 level on campus (CORE or otherwise), a technical elective, or an aerospace elective. Other competitive aerospace departments require more than 124 credits for graduation and the faculty feel the lower limit is 124 credits and we have been advising our students based upon that figure. The "free" elective gives our students the possibility of participating in non-technical programs and getting some credit towards their degree (Quest and Hineran CEO for example). In order to be competitive with other comparable aerospace institutions and to maintain and improve upon our stature, the department feels that this minimum credit requirement and ultimate course requirements should be maintained (at 124).

APPROVAL SIGNATURES

1. Department Committee Chair

2. Department Chair

3. College/School PCC Chair

4. Dean

5. Dean of the Graduate School (if required)

6. Chair, Senate PCC

7. Chair of Senate

8. Vice President for Academic Affairs & Provost

DATE

9/28/07

10/1/07

10/28/03

30 Oct 05

VPAAP Rev. 22/98

PCC - AN03 - 05 AE
December 5, 2003

MEMORANDUM

TO: Nariman Farvardin
    Dean, A. James Clark School of Engineering

FROM: Victor Korenman
    Associate Provost for Academic Planning and Programs

SUBJECT: Proposal to Modify the Curriculum of the B.S. Program in Aerospace Engineering
          (PCC Log No. 03017)

At its meeting on December 5, 2003, the Senate Committee on Programs, Curricula, and Courses approved your proposal to modify the curriculum of the bachelor’s program in Aerospace Engineering, to clarify that 124 credits are required to complete the program. A copy of the approved proposal is enclosed.

The change is effective immediately. The College should ensure that the new requirements are fully described in the next edition of the Undergraduate Catalog and in all relevant descriptive materials, and that all advisors are informed.

VK:sfm
Enclosure

Cc: Dr. Sylvester J. Gates, Jr., Chair, Senate PCC
    Dr. Mary Giles, University Senate
    Ms. Barbara Hope, Data Administration
    Dr. Phyllis Peres, Undergraduate Studies
    Dr. Gary Pertmer, A. James Clark School of Engineering
    Ms. Anne Turkos, Archives
    Dr. Linda Yokoi, Records & Registrations
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Reviewed by Faculty Advisor

REFERRER BY ADVISOR FOR FURTHER DEPARTMENTAL REVIEW: Y/N

Date: ____________________ (Revised 12/01/22)

Total credits must be ≥124
AEROSPACE ENGINEERING  
http://www.enae.umd.edu

CORE GENERAL EDUCATION PROGRAM

Requirement                        Course/Grade/Credit

**Fundamental Studies (6 credits)**
English Composition - ENGL 101 3  
Advanced Composition - ENGL 393 3

**Distributive Studies (18 credits) [Lower level courses]**
Humanities and the Arts (9 credits)
Literature (HL) 3  
Arts (HA) 3  
Arts/Lit/Humanities (HA, HL, HO) 3

Social and Behavioral Sciences (9 credits)
Social/Political History (SH) 3  
Behavior/Social Science (SB) 3  
Behavior/Social Science (SB) 3

**Advanced Studies (6 credits) [Upper level courses]**
Must be courses outside of your major department or may include an approved Capstone course in your major

ENAE 482 - or ENAE 484 - Systems Design** 3
**May be required depending upon credit count. See department advisor for more information.
**CORE Approved Capstone Course.

**Diversity (3 credits)**
One course from approved list (D) 3

MAJOR REQUIREMENTS

Basic Sciences
CHEM 135 - Chem for Eng or CHEM 113 - Chem II* 3/4  
PHYS 161 - General Physics I 3  
PHYS 260 & 261 - Gen Physics II w Lab 3/1
PHYS 270 & 271 - Gen Physics III w Lab 3/1
MATH 140 - Calculus I 4  
MATH 141 - Calculus II 4  
MATH 241 - Calculus III 4  
MATH 246 - Differential Equations 3

*The prerequisite to this course is CHEM 103.

Engineering Sciences
ENES 100 - Intro to Eng Design 3  
ENES 102 - Statics 3  
ENES 220 - Mechanics of Materials 3  
ENES 221 - Dynamics 3

Major Requirements
ENAE 100 - Aerospace Eng Profession 1  
ENAE 202 - Aerospace Computing 3  
ENAE 261 - Aerospace Analysis & Computation 3  
ENAE 283 - Intro to Aeronautical Systems 3  
ENAE 301 - Dynamics of Aerospace Systems 3  
ENAE 311 - Aerodynamics 3  
ENAE 324 - Aerospace Structures 4  
ENAE 352 - Aero Instrumentation & Experiments 3  
ENAE 423 - Vibration & Aeroelasticity 3  
ENAE 432 - Control of Aerospace Systems 3  
ENAE 454 - Aerospace Eng Lab 3  
EN ** 4XX - Elective* or ENAE 398H - Honors Research Project* 3

*See Department Advisor for appropriate elective.

Chose one of the following tracks:

Aeronautical Track
ENAE 403 - Aircraft Flight Dynamics 3  
ENAE 414 - Aerodynamics II 3  
ENAE 455 - Aircraft Propulsion & Power 3  
ENAE 481 - Principles of Aircraft Design 3  
ENAE 482 - Aeronautical Systems Design 3

Space Systems Track
ENAE 441 - Space Navigation & Guidance 3  
ENAE 464 - Space Flight Dynamics 3  
ENAE 457 - Space Propulsion & Power 3  
ENAE 463 - Princ of Space Systems Design 3  
ENAE 484 - Space Systems Design 3

Technical Requirements
ENME 232 - Thermodynamics 3  
Technical Elective - 4XX** 3

** Technical elective must be a 300 or 400 level course outside of the major and that is approved by the department advisor.

NOTES
All engineering (ENXX) courses must be completed with a grade of "C" or better.
All degree courses must be taken for a regular grade.
A minimum of 120 credits and completion of all degree requirements is required for graduation.
The responsibility for meeting all graduation requirements in any curriculum rests with the student.

Try out Degree Auditor at http://www.testudo.umd.edu/degentry.html.

revised 06/03
According to Nick's memo, AE has implemented a curriculum change which requires a student to take an additional course (an elective in place of where a CORE would be). If a student chooses to use the capstone course and the non-AE Tech elective to fill advanced study CORE (the University allows any upper level non-major course to be used as a CORE advanced study, and the college policy is that non-major means non-departmental) then he/she takes a general elective. Or, if the student chooses not to use the non-AE Tech elective, he/she takes another course to fill the CORE advanced study requirement. Either way, it's an additional course.

I realize that this has been the department policy, and that you are advising students this way. However, a curriculum change has to go through PCC and be approved. Making it official takes care of any confusion that the student might have and allows Student Affairs to have the correct curriculum sheet and do the graduation audits.

Please submit the PCC form. Rich Cihahre's PCC committee will be meeting soon, so this can be done quickly.

Thanks.

Gary
-----Original Message-----
From: Nicole Roop [mailto:nroop@aero.umd.edu]
Sent: Monday, March 17, 2003 11:53 AM
To: Erin Rooney-Edel; jolani@deans.umd.edu; Eileen Harrington; Jane Fines
Subject: Student Course Listing

Attached you will find our recently revised curriculum worksheet for ENAE students. We are offering students who have completed all of their COREs to take an elective in place of where a CORE would be. ENAE students now have one Aero elective and one Tech elective to take their senior year.

On the back of our worksheet, I have reminded students (and myself) of the following information in case you want to include this on the major requirements sheet your office distributes:

- A Technical Elective is a 300 or 400 level course outside of department.
- An Aerospace Elective is a 400 level ENAE course; this can be an ENAE 488 course or the senior Aerospace Research Thesis for three credits (ENAE 398H or ENAE 499).
- Remember that ENAE 482 or 484 fulfills your CORE Advanced Studies Capstone requirement.

Let me know if you have any questions.

Audit Check page1.doc
ATT00012.txt
ATT00015.htm