THE OHIO STATE UNIVERSITY

College of Engineering

122 Hitchcock Hall
2070 Neil Avenue
Columbus, OH 43210-1278

Phone 614-292-2651
FAX 614-292-9379
E-mail engosu@osu.edu

Date: 24 February 2011

To: Randy Smith
Vice Provost, Office of Academic Affairs

From: Ed McCaul
Secretary, College of Engineering Committee on Academy Affairs (CCAA)

Subject: Semester Conversion Proposal for the BS Degree in Aviation

Attached is a letter from Meyer Benzakein, Department Chair of Aviation, as well as a semester conversion proposal for their BS Degree in Aviation. Their proposal was reviewed by a subcommittee of CCAA. After reviewing the proposal and having some changes made to it the subcommittee recommended to the full committee that it be approved. After a discussion, CCAA approved the proposal on the 23rd of February 2011 and requested that I forward it to you for consideration by CAA. If you have any questions concerning this proposal please let me know.

THE OHIO STATE UNIVERSITY

Aviation Department

400 Aviation Building
164 West 19th Avenue
Columbus, OH 43210-1110

Phone (614) 292-2405
Fax (614) 292-1014
Web: www.aviation.osu.edu

REVISED APRIL 18, 2011
PER CAA FEEDBACK

To: Office of Academic Affairs
From: Meyer Benzakein, AVN Chair
Date: May 27, 2010 revised November 8, 2010 revised January 13, 2011
Re: **BS in Aviation** Semester Curriculum Proposal, Dept. of Aviation

The faculty and staff of the Department of Aviation (AVN) have worked diligently over the past year to prepare the attached proposal for the department's undergraduate engineering curriculum under the university's proposed semester-based academic calendar. This proposal describes the department's proposed curriculum and plans for transition from the current quarter-based calendar. The faculty has unanimously voted to approve this proposal, and I personally recommend its approval.

AVN currently administers the following programs in the College of Engineering:

- **BS in Aviation**: An undergraduate program focusing on aviation systems and management, with a fundamental emphasis on engineering principles.

- **Minor in Aviation:** A minor program offered as a compliment to undergraduate major programs throughout the university.

AVN also administers the following degree curricula within and outside of the College of Engineering:

- **BA in Social and Behavioral Sciences with a concentration in Aviation**: An undergraduate program focusing on the aviation systems and management, with a fundamental emphasis on social and behavioral principles. This program is offered through the College of Social and Behavioral Sciences (SBS).

- **BS/BA in Business with a special major in Aviation**: An undergraduate program focusing on the aviation systems and management, with a fundamental emphasis on business principles. This program is offered through the Fisher College of Business.

All of the above programs will continue to be offered under the semester calendar.

This proposal will detail the planned changes to the BS in Aviation offered through the College of Engineering. Proposals for the other programs listed above are offered under separate cover.

As discussed in this proposal, the curriculum was developed with significant input from all staff and representative students. The goal of the curriculum revision was not only to retrofit the current curriculum into a semester calendar, but also to take advantage of the longer terms to enhance the program. The semester calendar provides greatest benefit to aircraft flight lab courses, as it typically has taken longer than 10 weeks, but usually less than 14 weeks to complete various stages of instruction as dictated by FAA flight school certification standards.

The curriculum was also assembled to offer greater flexibility to students by removing the current two areas of specialization. As described in this proposal, students will now have the ability to take a combination of flight-related and management-related courses should they not desire to fully dedicated to

professional pilot certification. For those desiring to intensely study flight education, the faculty and staff agreed that the students should receive a special "OSU professional pilot certification" for completing such an intense curriculum. Such a certification is proposed within this document.

Finally, this curriculum was developed with the intention of being portable to other colleges, as the department currently accommodates majors from SBS and Business. The proposed curriculum of aviation courses will be consistent among majors.

This proposal has been vetted through the AVN Dept. and discussed among faculty, staff, and student leaders, including flight instructors, lecturers, and student leaders of aviation organizations (AAAE, Flight Team, and AHP). The faculty voted unanimously (2 for, 0 opposed) to support this proposal, and staff and representative students have expressed their approval.

Meyer Benzakein, AVN Dept. Chair

Aviation (AVN) B.S. Program Proposal

Primary Contact: Meyer Benzakein, Dept. Chair
e-mail: Benzakein.1@osu.edu
tel. 292-7699

Secondary Contact: Seth Young, Associate Professor
e-mail: young.1460@osu.edu
tel. 292-4556

1. Name of Program

Aviation (AVN)

2. Names of Degree

Bachelor of Science in Aviation (BS AVN)

3. Responsible Academic Unit

The academic unit responsible for this program will be the Department of Aviation, a tenure initiating unit within the College of Engineering.

4. Type of Program

Undergraduate bachelor's degree program

5. Semester Conversion Designation

Re-envisioned with significant changes to curricular requirements (core requirements, tracks/options/courses) but no changes to program goals.

6. Program Learning Goals

Although the AVN program is not itself accredited by ABET, this proposal will describe program learning goals, separated into "objectives" and "outcomes", as specified by ABET accrediting requirements. ABET terminology defines these terms as follows:

Program Educational Objectives: broad statements that describe the career and professional accomplishments that the program is preparing the graduates to achieve.

Program Outcomes: narrower statements that describe what students are expected to know and be able to do by the time of graduation (related to skills, knowledge, and behaviors that students acquire in their matriculation through the program).

Program Educational Objectives

The AVN program has the following educational objectives:

1. Graduates of the program will be engaged in the wide variety of engineering applications within the aviation industry, ranging from flight, to aviation systems engineering.
2. Graduates of the program will apply engineering principles to solving problems within the aviation industry
3. Graduates will be informed and involved members of the aviation community and will work effectively and ethically as leaders and members of teams, and as individuals.
4. Graduates will be prepared and motivated for graduate study in engineering with applications in the aviation industry.

Program Outcomes

The outcomes of the AVN program are that the students will attain the following skills and abilities:

(a) An ability to apply knowledge of mathematics, science, and engineering.
(b) An ability to design and conduct experiments, as well as to analyze and interpret data.
(c) An ability to design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability.
(d) An ability to function on multidisciplinary teams.
(e) An ability to identify, formulate, and solve engineering problems.
(f) An understanding of professional and ethical responsibility.
(g) An ability to communicate effectively.
(h) The broad education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context.
(i) A recognition of the need for, and an ability to engage in life-long learning.
(j) Knowledge of contemporary issues.
(k) An ability to use the techniques, skills, and modern engineering tools necessary for engineering practice.

7. Proposed Program Requirements

The **BS in Aviation program** will have the following requirements:

- General Education Courses (GEC) - 24 semester credit hours:

  The GEC requirements of the BS in Aviation degree program will be consistent with that of the College of Engineering. Courses to fulfill the GEC requirement will be selected from a set to be designated by the College of Engineering once other departments' offerings and General Education approved courses are known.

- Basic Engineering Core – 20 semester credit hours

  The basic engineering core requirements of the BS in Aviation degree program will be consistent with that as prescribed by the College of Engineering. A list of required Basic Engineering Core courses is listed in Attachment A of this document.

- Aviation Core – 26 semester credit hours

  The BS in Aviation degree program will require 26 semester credit hours of pre-determined courses that make up the "Aviation Core". The list of courses that make up the Aviation Core may be found in Attachment A of this proposal.

- Aviation / Technical Electives – 54 semester credit hours

  The BS in Aviation degree program will require 54 semester credit hours of aviation / technical electives. As part of this requirement, students must select at least 12 semester credit hours of aviation electives and 27 hours of technical electives, as listed in Attachment A of this proposal. Students may select their remaining 15 semester credit hours through a combination of aviation electives and technical electives.

In total, 124 semester credit hours will be required to complete the College of Engineering BS in Aviation degree program. A conversion table mapping the current quarter-based courses to the proposed semester-based courses found in Attachment B.

8. Current and Proposed Advising Sheets

The current and proposed advising sheets for the College of Engineering BS in Aviation degree program may be found in Attachment C.

9. Curriculum Map

The proposed curriculum map for the College of Engineering BS in Aviation degree program, as constructed by the College of Engineering syllabus tool, may be found in Attachment D.

10. Rationale for Program Changes and Description of Changes

The conversion to a semester-based academic calendar, along with the transfer of the undergraduate AVN program to the CAS, offers a unique opportunity to make important revisions to the current program. To this end, the faculty and staff of AVN have spent the better part of a year to revise the current curriculum.

The faculty and staff had the following goals in mind when considering any proposed changes to the curriculum:

- The curriculum must continue to meet requirements set forth by the Federal Aviation Administration.
- The curriculum had to maintain, or perhaps enhance, its emphasis on core engineering principles.
- The curriculum had to maintain a wide spectrum of courses covering topics important to the aviation industry
- It was desired that the curriculum offer an increased flexibility on the part of students to select courses particular to their specific interest.
- The curriculum was to remain competitive in comparison to similar offerings at peer institutions, many of which house their aviation programs in colleges other than engineering
- The ability to complete the aviation program within a reasonable amount of time (4 years) must be maintained, including for those students who desire to complete the ratings required for a career as a professional pilot.
- A capstone course was desired

As a result of a series of discussions among the faculty and staff of the Department of Aviation and certain faculty within the College of Engineering, the proposed curriculum includes the following significant changes:

1. A semester-based curriculum that requires 124 total semester credit hours for graduation, rather than the current quarter-based curriculum that requires 187 total quarter credit hours will be offered.

2. A modified overall engineering core and electives will be offered, based in part by the modified College of Engineering core and the provision of an additional assortment of engineering courses from which the student will be required to choose.

3. Areas of concentration within the current aviation degree program will be eliminated. Currently, students are asked to select aviation courses based on their desired "area of concentration". These areas of concentration are "aviation systems' – which focuses on flight training courses, and "aviation management" – which focuses on aviation management courses. Under the proposed curriculum, students will not be limited to just one set of courses, but may choose from the list of courses offered under each area towards fulfilling their aviation elective course requirements.

4. ***A "Professional Pilot Certification" will be created. This certification will be awarded to students who successfully complete the curriculum of courses associated with flight education, through the commercial/multi-engine pilot, or single engine certified flight instructor level.*** This certification is the same curriculum path as the current "aviation systems" area of concentration.

5. The Aviation Core curriculum will be enhanced from six courses to eight courses. This will ensure that all aviation students will receive a comprehensive array of material that covers the essential fundamental knowledge required to be successful in the aviation industry. Courses being moved into the Aviation Core are courses in Aviation Communication, and Aviation Infrastructure and Regulations.

6. With the following exceptions identified below, courses will retain their current credit hour designations and will maintain the same subject matter, **with enhanced coverage of each subject matter topic, given the additional available hours under the semester system**.

7. A capstone course, AVN 5500, required for all aviation majors, has been created. This course will be a senior level course which applies material presented in the aviation core and aviation elective courses to a comprehensive capstone project.

8. Current course AVN 300 "The National Aviation System" and AVN 322 "Aviation History" will be combined into one course and will be renamed AVN 2000 "Introduction to the Aviation Industry". The material taught in each existing course will be retained and duplication of material between the two courses will be eliminated. This will be a required course in the Aviation core.

9. Current courses AVN 410 "Aviation weather" and AVN 411 "Aircraft Performance" will be combined into one course: AVN 2300 "Aircraft Performance and Weather". The material taught in each existing course will be retained and combined to better reflect how meteorological conditions affect the performance of aircraft in flight. This will be a required course in the Aviation core.

10. Current courses AVN 540 "Aviation Human Factors" and AVN 560 "Aviation Safety" will be combined into one course: AVN 3300 "Aviation Human Factors and Safety". The material taught in each existing course will be retained and duplication of material between the two courses will be eliminated. This will be a required course in the Aviation core.

11. Current courses AVN 550 "Aviation Management" and AVN 654 "Airline Marketing" will be combined into one course: AVN 3000 "Aviation Management and Marketing". The material taught in each existing course will be retained and duplication of material between the two courses will be eliminated. This will be a required course in the Aviation core.

12. Current courses AVN 650 "Air Transportation Analysis I" and AVN 652 "International Aviation Analysis" will be combined into one course: AVN 4000 "Air Transportation Analysis I". The material taught in each existing course will be retained and duplication of material between the two courses will be eliminated. This will be an aviation elective course in the major.

13. Current courses AVN 750 "Air Transportation Analysis II" and AVN 591 "Flight Network Analysis and Optimization" will be combined into one course: AVN 5000 "Air Transportation Analysis II". The material taught in each existing course will be retained and duplication of material between the two courses will be eliminated. This will be an aviation elective course in the major.

14. Current courses AVN 441 "Instrument Flight Lab I" and AVN 442 "Instrument Flight Lab II" will be combined into one course: AVN 3101 "Instrument Flight Lab". The material taught in each existing course will be combined into one semester-long course. This will be an aviation elective course in the major, but a required course towards earning an OSU professional pilot certification.

15. Current courses AVN 444 "Commercial Flight Lab II" and AVN 445 "Commercial Flight Lab III" will be combined into one course: AVN 4101 "Commercial Flight Lab". The material taught in each existing course will be combined into one semester-long course. This will be an aviation elective course in the major, but a required course towards earning an OSU professional pilot certification.

16. Current course AVN 443 "Commercial Flight Lab I" will be renamed AVN 2501 "Commercial Cross Country Flight Lab" and will change from 3 quarter-credit-hours to 2 semester-credit-hours.

17. Current course AVN 461 "Flight Instructor SEL Flight Lab" will be renumbered as AVN 5101 and will change from 3 quarter-credit-hours to 2 semester-credit-hours.

18. Current course AVN 462 "Flight Instructor MEL Flight Lab" will be renumbered as AVN 5102 and will change from 3 quarter-credit-hours to 1 semester-credit-hour.

19. Current course AVN 422 "Instrument Instruction Methodology" will be renamed as AVN 5200 "Instrument Flight Instruction Methodology" and will change from 3 quarter-credit-hours to 2 semester-credit-hours.

20. Current course AVN 462 "Instrument Instruction Flight Lab" will be renamed as AVN 5201 "Instrument Flight Instruction Flight Lab" and will change from 3 quarter-credit-hours to 1 semester-credit-hour.

11. Credit Hour Changes

The following table describes the changes to credit hour requirements from the current quarter-based curriculum to the proposed semester-based curriculum:

	Current program	2/3rds calculation	Semester program
Total hours required for completion of program	187	124.67	124
Required Hours offered by the unit	51	34	38 - 53
Required Hours offered outside the unit	136	90.67	71 - 86
Free electives	3	2	0

12. Rationale for Significant Change in Credit Hours

The rationale for the above significant changes in credit hours is based on:

- The change from a quarter-based system to a semester-based system
- The change in the engineering core
- The removal of areas of concentration within the aviation curriculum
- A desire to enhance the aviation core and electives

13. Transition Policy

The following policy for transitioning from a quarter based curriculum to a semester based curriculum has been developed with the following goals:

- Students progressing towards their undergraduate degree in aviation will not be impeded by the conversion from quarters to semesters.

- For students beginning their undergraduate program under the quarter based system, any courses completed under quarters will be honored under the semester based system, with a semester credit hour adjustment of 3 quarter credit hours = 2 semester credit hours. Any students that will be completing their program under semesters will be required to satisfy the total requirement of 124 semester hours, applying the above formula. The course conversion table found in Attachment B shall be used as guidance towards crediting courses taken under quarters to meet requirements under semesters.

- The completion of the engineering core during this transition period will be done so according to the college of Engineering core curriculum transition policy.

- All students completing the program under the semester curriculum will be required to satisfy the course requirements of this new curriculum. For students who will be starting their program

under the current quarter based system and completing their program under the semester-based curriculum, courses taken as Aviation electives under quarters will be allowed to act as substitutes for new required courses, with the exception of the capstone course, as appropriate, to be determined on an individual basis.

- ***For students that have completed AVN 441but not AVN 442 during the quarter calendar, a special transition course "AVN 3101.1" will be created. This course will cover the material in AVN442 only, and will be valued at 1 semester credit hour. It is expected that less than 10 students will be affected.***

- ***For students that have completed AVN444 but not AVN 445 during the quarter calendar, a special transition course "AVN 4101.1" will be created. This course will cover the material in AVN445 only, and will be valued at 1 semester credit hour. It is expected that less than 10 students will be affected.***

14. Assessment Practices

AVN has long followed an informal practice of assessing the progress of students through the undergraduate program. The department will be developing a formal assessment strategy in preparation for measuring the effectiveness of the proposed curriculum. Such an assessment strategy is proposed to include assessment tools such as pre-exams, surveys, and continued communication with students upon completion of their program.

15. Assessment on File with OAA

Upon its creation, the department's formal curriculum assessment program will be placed on file with the Office of Academic Affairs.

Attachment A

Proposed Courses

Basic Engineering Core:

Engineering Calculus 1151	(5 hours)
Engineering Calculus 1172	(5 hours)
Physics 1131	(5 hours)
Engineering 1100	(1 hour)
Engineering 1181	(2 hours)
Engineering 1182	(2 hours)
Total:	20 hours

Aviation Core: (current course numbers in parentheses)

Aviation 2000 (300)	Introduction to the Aviation Industry	(3 hours)
Aviation 2100 (310)	Private Pilot Fundamentals	(5 hours)
Aviation 2200 (520)	Aviation Communication	(3 hours)
Aviation 2300 (410/411)	Aircraft Performance and Weather	(3 hours)
Aviation 3000 (550/654)	Aviation Management and Marketing	(3 hours)
Aviation 3200 (530)	Aviation Regulations	(3 hours)
Aviation 3300 (540/560)	Aviation Human Factors and Safety	(3 hours)
Aviation 5500 (new course)	Aviation Capstone Course	(3 hours)
	Total:	26 hours

TOTAL Core Courses: **46 hours**

Aviation / Technical Electives: (current course numbers in parentheses)

Must choose at least 12 hours from this list of Aviation Elective Courses
Courses marked with a * are required for OSU professional pilot certification (total 21-24 hours)
(note: students may choose either Aviation 4301 or 5101, but do not need both)

Aviation 2101 (341)	Private Pilot Flight Lab I*	(2 hours)
Aviation 2102 (342)	Private Pilot Flight Lab II*	(2 hours)
Aviation 2501 (443)	Commercial Cross Country Flight Lab*	(2 hours)
Aviation 3100 (415)	Instrument Flight Fundamentals*	(3 hours)
Aviation 3101 (441/442)	Instrument Pilot Flight Lab*	(3 hours)
Aviation 3193 (493)	Individual Studies in Aviation	(2-5 hours)
Aviation 4000 (650/652)	Air Transportation Analysis I	(3 hours)
Aviation 4100 (413)	Commercial Flight Operations*	(3 hours)
Aviation 4101 (444/445)	Commercial Pilot Flight Lab*	(3 hours)
Aviation 4300 (417)	Advanced Multi-Engine Operations*	(2 hours)
Aviation 4301 (446)	Comm. / Inst. Pilot AMEL Flight Lab*	(2 hours)
Aviation 4400 (552)	Airport Management	(3 hours)
Aviation 4800 (489)	Professional Practices in the Industry	(2 hours)
Aviation 4193 (593)	Individual Studies in Aviation	(2-5 hours)
Aviation 5000 (750/591)	Air Transportation Analysis II	(3 hours)
Aviation 5100 (421)	Flight Instruction Methodology*	(2 hours)
Aviation 5101 (461)	Flight Instructor ASEL Flight Lab*	(2 hours)
Aviation 5102 (463)	Flight Instructor AMEL Flight Lab	(1 hour)
Aviation 5193 (693)	Individual Studies in Aviation	(2-5 hours)
Aviation 5194 (694)	Individual Studies in Aviation	(2-5 hours)
Aviation 5200 (422)	Instrument Flight Instruction Methodology	(2 hours)
Aviation 5201 (462)	Instrument Flight Instruction Flight Lab	(1 hours)
Aviation 5300 (674)	Airport Planning, Design, & Development	(3 hours)

Must choose at least 27 hours from this list of Technical Elective Courses

Aerospace Engineering 2200	(4 hours)
Aerospace Engineering 2201	(4 hours)
Computer Science Engineering 1221	(2 hours)
Computer Science Engineering 1222	(3 hours)
Physics 1251	(5 hours)
Chemistry 1250	(4 hours)
Math 2173	(4 hours)
Math 2174	(4 hours)
Math 2177	(4 hours)
Math 2568	(4 hours)
Mech Engineering 2010 – Statics	(2 hours)
Mech Engineering 2030 – Dynamics	(3 hours)
Statistics 3460	(4 hours)
Statistics 3470	(4 hours)
Industrial Systems Engineering 2040	(2 hours)
Total Required Aviation / Technical Electives:	**54 hours**
General Education Requirements:	**24 hours**
Free Electives:	**0 hours**
REQUIRED HOURS:	**124**

Attachment B

Course Conversion Table

Course Conversion Table

Updated: January 13, 2011

Existing Course							**Proposed Course**						
Course #	**Title**	**Hours**	**Core**	**Elective**	**Classroom**	**Flight Lab**	**Course #**	**Title**	**Hours**	**Core**	**Elective**	**Classroom**	**Flight Lab**	**Pre-req's**
300	The National Airspace System	3	x		x		2000	Intro to the Aviation Industry	3	x		x		
322	Aviation History	3		x	x		(combined into 2000)							
310.01	Private Pilot Fundamentals	5	x		x		2100	Private Pilot Fundamentals	5	x		x		
341	Private Pilot Flight Lab I	2		x		x	2101	Private Pilot Flight Lab I	2		x		x	
342	Private Pilot Flight Lab II	2		x		x	2102	Private Pilot Flight Lab II	2		x		x	2100, 2101
443	Commercial Flight Lab I	3		x		x	2501	Commercial Cross Country Flight Lab	2		x		x	2100, 2101, 2102
520	Aviation Communication	3	x		x		2200	Aviation Communication	3	x		x		
410	Aviation Weather	3	x		x		2300	Aircraft Performance & Weather	3	x		x		2000, 2100
411	Aircraft Performance	(currently dormant course)					(combined into 2300)							
550	Aviation Management	3	x		x		3000	Aviation Management & Marketing	3	x		x		2000, 2100
654	Airline Marketing	3		x	x		(combined into 3000)							
415	Instrument Flight Fundamentals	3		x	x		3100	Instrument Pilot Fundamentals	3		x	x		2300
441	Instrument Flight Lab	3		x		x	3101	Instrument Flight Lab	3		x		x	
442	Instrument Flight Lab II	3		x		x	(combined into 3101)							
530	Aviation Regulations	3	x		x		3200	Aviation Regulations	3	x		x		2100
540	Aviation Human Factors	3	x		x		3300	Aviation Human Factors and Safety	3	x		x		2000, 2100
560	Aviation Safety	3		x	x		(combined into 3400)							
650	Air Transportation Analysis I	3		x	x		4000	Air Transportation Analysis I	3		x	x		3000
652	International Aviation Analysis	3		x	x		(combined into 4000)							
413	Commercial Flight Operations	3		x	x		4100	Commercial Flight Operations	3		x	x		2300
444	Commercial Flight Lab II	3		x		x	4101	Commercial Flight Lab I	3		x		x	2102
445	Commercial Flight Lab III	3		x		x	(combined into 4101)							
417	Advanced Multi Engine Operations	2		x	x		4300	Advanced Multi-Engine Operations	2		x	x		2300
446	Commercial Pilot MEL Flight Lab	2		x		x	4301	Commercial Pilot MEL Flight Lab	2		x		x	4100, 4102
552	Airport Management	3		x	x		4400	Airport Management	3		x	x		3000
489	Professional Practice in Industry	2		x			4800	Professional Practice in Industry	2		x			
591	Flight Network Analysis and Optimization	3		x	x		5000	Air Transportation Analysis II	3		x	x		3000
750	Air Transportation Analysis II	3		x	x		(combined into 5000)							
421	Flight Instruction Methodology	2		x	x		5100	Flight Instruction Methodology	2		x	x		2300, 3100, 4100
461	Flight Instructor SEL Flight Lab	3		x		x	5101	Flight Instructor SEL Flight Lab	2		x		x	5100, 4102
463	Flight Instructor MEL Flight Lab	3		x		x	5102	Flight Instructor MEL Flight Lab	1		x		x	5100, 4201
422	Instrument Instruction Methodology	3		x	x		5200	Instrument Flight Instruction Methodology	2		x		x	5100
462	Instrument Instruction Flight Lab	3		x		x	5201	Instrument Flight Instruction Flight Lab	1		x		x	5200, 4102
674	Airport Planning, Design, & Development	3		x	x		5300	Airport Planning, Design, & Development	3		x	x		4300 (recommended)
							5500	Aviation Capstone	3	x		x		3000

294	Group Studies in Aviation	2-5		x			2194	Group Studies in Aviation	2-5		x			
493	Individual Studies in Aviation	2-5		x			3193	Individual Studies in Aviation	2-5		x			
593	Individual Studies in Aviation	2-5		x			4193	Individual Studies in Aviation	2-5		x			
693	Individual Studies in Aviation	2-5		x			5193	Individual Studies in Aviation	2-5		x			
694	Group Studies in Aviation	2-5		x			5194	Group Studies in Aviation	2-5		x			
H783	Honors Research in Aviation	2-5		x			H5998	Honors Research In Aviation	2-5		x			

Attachment C

Current and Proposed Advising Sheets and Sample 4 year program plans

Aviation
Draft Semester Bingo Sheet 2012-2013
College of Engineering
SAMPLE Schedule Plan – with OSU Professional Pilot Certification

YEAR	AUTUMN	SPRING	SUMMER
1	Engineering Calculus I (5) Engineering 1100 (1) Engineering 1181 (2) Aviation 2100 (310) (5) Aviation 2101 (341) (2) Total: 15 hours	Engineering Calculus II (5) Engineering 1182 (2) Aviation 2000 (300) (3) Aviation 2102 (342) (2) GEC 1 (3) Total: 15 hours	
2	Physics 1131 (5) Aviation 2200 (520) (3) Aviation 2501 (443) (2) Aviation 3100 (415) (3) GEC 2 (3) Total: 16 hours	Aviation 2300 (410/411) (3) Aviation 3101 (441/442) (3) Technical Elective I (5) Technical Elective II (5) Total: 16 hours	
3	Aviation 4100 (413) (3) Aviation 4101 (444/445) (3) Aviation 3000 (550) (3) Aviation 3200 (530) (3) Technical Elective III (4) Total: 16 hours	Aviation 5100 (421) (2) Aviation 5101 (461) (2) Technical Elective IV (5) Technical Elective V (4) GEC 3 (3) Total: 16 hours	
4	Aviation 3300 (540/560) (3) Technical Elective VI (3) GEC 4 (3) GEC 5 (3) GEC 6 (3) Total: 15 hours	Aviation 5500 (750) (3) Aviation 4301 (446) (2) Technical Elective VII (4) GEC 7 (3) GEC 8 (3) Total: 15 hours	

COE Core:	20 hours
AVN Core:	26 hours
Aviation Electives:	24 hours
Technical Electives:	30hours
GECs:	24 hours
Total Hours:	124 hours

Aviation
Draft Semester Bingo Sheet 2012-2013
College of Engineering
SAMPLE Schedule Plan – without any flight courses

YEAR	AUTUMN	SPRING	SUMMER
1	Engineering Calculus I (5) Engineering 1100 (1) Engineering 1181 (2) Aviation 2100 (310) (5) GEC 1 (3) Total: 16 hours	Engineering Calculus II (5) Engineering 1182 (2) Aviation 2000 (300) (3) GEC 2 (3) GEC 3 (3) . Total: 16 hours	
2	Physics 1131 (5) Aviation 2200 (520) (3) Aviation 3200 (530) (3) Technical Elective I (4) Total: 15 hours	Aviation 2300 (410/411) (3) Aviation 3000 (550) (3) Technical Elective II (5) Technical Elective III (5) Total: 16 hours	
3	Aviation 4000 (650) (3) Aviation 3300 (540/560) (3) Technical Elective IV (4) Technical Elective V (3) GEC 4 (3) Total: 16 hours	Aviation 4300 (552) (3) Aviation 5000 (652/750) (3) Technical Elective VI (4) Technical Elective VII (4) Total: 14 hours	
4	Aviation 5300 (674) (3) Aviation 5400 (591) (3) Technical Elective VIII (3) GEC 5 (3) GEC 6 (3) Total: 15 hours	Aviation 5500 (750) (3) Technical Elective IX (3) Technical Elective X (4) GEC 7 (3) GEC 8 (3) Total: 16 hours	

COE Core:	20 hours
AVN Core:	26 hours
Aviation Electives:	15 hours
Technical Electives:	39 hours
GECs:	24 hours
Total Hours:	124 hours

Aviation
2009-2010
College of Engineering

SAMPLE Schedule Plan

YEAR	AUTUMN	WINTER	SPRING
1	Math 151.0X ..... 5 Engineering 100.02 (Engr Survey) 1 Engineering 181.01 ..... 3 AVN 310 5	Math 152.0X ..... 5 Physics 131 ..... 5 Engineering 183.0X ..... 3 AVN 300 3	Math 153.0X ..... 5 Physics 132 5
2	Math 254.0X ..... 5 Physics 133 ..... 5 **AAE 200** 5	Math 366 ..... 3 Mech Eng 410 ..... 4 **AAE 201** 5	Math 255.0X ..... 5 Mech Eng 430 ..... 4 CSE 202 4
3	ISE 504 ..... 3 AVN 530* ..... 3 Stat 245 5	CSE 230 ..... 4 Chem 121 5	AVN 550* ..... 3 AVN 540* 3
4		AVN 560 3	

Courses printed in BOLD are taught one quarter per year.
Please check Course Offerings Book for availability of other courses.

GENERAL EDUCATION (35 hrs)
English & Communication Skills (10)
English 110.0X (5)___
2nd English (5)___

Students must take 25 hours across Social Sciences, Historical Study, and Arts & Humanities with a minimum of 5 hours and maximum of 10 hours per category.

Historical Study (5-10)
___( )___
___( )___

Arts & Humanities (5-10)
___( )___
___( )___

Social Sciences (5-10)
Econ 200 (5)___
___( )___

Ethics (5)
___( )___

MANAGEMENT TECHNICAL ELECTIVES

Choose 8 classes from MGT.
Choose 9 hours from ELECTIVES.

ELECTIVES	MGT
Avn 322 (3) ___	Avn 552 (3) ___
Avn 341 (2) ___	Avn 591 (3) ___
Avn 342 (2) ___	Avn 650 (3) ___
Avn 410 (3) ___	Avn 652 (3) ___
Avn 413 (3) ___	Avn 654 (3) ___
Avn 415 (3) ___	Avn 674 (3) ___
Avn 417 (2) ___	Avn 750 (3) ___
Avn 421 (3) ___	B-Mgt 330 (5) ___
Avn 441 (3) ___	B-Mgt 331 (4) ___
Avn 442 (3) ___	Econ 201 (5) ___
Avn 443 (3) ___	Geog 645 (5) ___
Avn 444 (3) ___	
Avn 445 (3) ___	
Avn 446 (3) ___	
Avn 674 (3) ___	
Avn 750 (3) ___	

ADMISSION CONDITION
___( )___

SOCIAL DIVERSITY
(May overlap with another GEC Category)
___( )___

Free Elective___( )___

Sub-total Core 109
General Education 35
Free Electives 3
Technical Electives 40

TOTAL HOURS 187

Rev2/25/10

* Satisfies 3rd writing course Requirement

Acceptance into the Aviation major is dependant on the cumulative point-hour ratio (CPHR), and the secondary point-hour ratio (SPHR) upon completion of the following pre-major courses: AVN 300, 310; Math 151.0X,152.0X,153.0X; Physics 131,132,133; Chemistry 121; English 110.0X and Engineering 181.01, 183.0X. A minimum SPHR of 2.0 is required. Students with a CPHR of 3.0 are assured acceptance. Formal application is required. See the departmental office (AV 404) for application details.

Attachment D

Curriculum Map

College of Engineering Curriculum Map: Courses to College Outcomes (Proposed)

Course Subject: Aviation

Course Number	a	b	c	d	e	f	g	h	i	j	k
AVIATION 2000						**	**		**	***	
AVIATION 2100	**	*	*		*	*	*		*	**	***
AVIATION 2101	**	**		*	*	*	***		**	**	*
AVIATION 2102	**	**		*	*	*	***		**	**	*
AVIATION 2200				**		**	***		*	***	
AVIATION 2300	***	**	*	*	*	*	*	*	**	**	*
AVIATION 3000				**		**	***	*	***	***	**
AVIATION 3100	***	**	**	**	*	**	**	*	**	**	*
AVIATION 3101	**	**	**	**		**	***		***	***	*
AVIATION 3200				**		***	***		***	***	
AVIATION 3300	*	**		*		**	**		***	***	**
AVIATION 4000	*	*	*	*		**	**		***	***	
AVIATION 4100	**	*		*		***	***	*	***	***	*
AVIATION 4101	**	**		*	*	*	***		**	**	*
AVIATION 4102	**	**		*	*	*	***		**	**	*
AVIATION 4200	**	**	*	*	*	*	***		**	**	*
AVIATION 4201	**	**		*	*	*	***		**	**	*
AVIATION 4300	*	*	**	**	*	***	***	*	***	***	*
AVIATION 4800	**	**	**	**	**	**	**	**	**	**	**
AVIATION 5000	*	*	*	*		**	**		***	***	
AVIATION 5100	**	**	**	**	*	***	***		***	***	
AVIATION 5101	**	**	*	**	*	***	***	*	***	***	*
AVIATION 5102	**	**	*	**	*	***	***	*	***	***	*
AVIATION 5200	**	**	*	**	*	***	***	*	***	***	*
AVIATION 5201	**	**	*	**	*	***	***	*	***	***	*
AVIATION 5300	**	**	**	**	*	***	***	**	***	***	**
AVIATION 5400	*	*	**	**	*	***	**	**	***	***	*
AVIATION 5500	**	**	***	***	*	**	***	*	**	***	*