



Undergraduate Plan of Study Instructions

November 2013

Table of Contents

- [Introduction](#) Page 3
- [Basic Requirements](#)Page 4-5
 - [Required](#) (85 cr)Page 4
 - [Either/Or](#) (10 cr)Page 4
 - [General Education Electives](#) (18 cr)Page 4
 - [Technical Electives](#) (6 cr)Page 5
 - [Major/Minor Electives](#) (15 cr).....Page 6
- [Minors outside AAE](#)Page 7
- [Engineering Honors Program](#)..... Page 7
- [Course Numbers and Levels](#)Page 8-9
 - [AAE45000/45100](#)Page 8
 - [AAE 49000](#)Page 8
 - [50000 Level Classes](#)Page 10
 - [60000 Level Classes](#)Page 10
- [Special Credits](#)Page 11
 - Graduate Credit
 - Transfer Credit
 - Co-Op and Internship
- [Course Information](#)Page 12
 - Course Availability
 - Course Schedules
 - Summer Classes
- [BS Curriculum Requirements in Aeronautics and Astronautics](#)Page 13-15
 - [Summary of Pre-requisites for Required Courses](#)Page 16
- [Plans of Study](#)Page 17-21
 - [Standard 8 Semester Plan](#)Page 17
 - [Extended Plan-9 Semester](#)Page 18
 - [Extended Plan-10 Semester](#).....Page 19
 - Suggested Plan of Study with Aeronautics ConcentrationPage 20
 - Suggested Plan of Study with Astronautics ConcentrationPage 21
 - Suggested Major or Minor Area Electives.....Page 22-26
 - [Aerodynamics](#)Page 22
 - [Design](#)Page 23
 - [Dynamics and Control](#)Page 24
 - [Propulsion](#).....Page 25
 - [Structures](#)Page 26
 - [Suggested Technical Electives](#)Page 27-28
 - Aeronautics ElectivesPage 29
 - Astronautics ElectivesPage 30
- [General Education Requirements](#)Page 31 – 35
 - General Education CoursesPage 36

Introduction

The purpose of this document is to help you plan your BSAAE degree program. It is appropriate to students who entered AAE in or after Spring 2012.

The basic [requirements](#) for the BS degree are tabulated below. There are five distinct categories of classes:

- [Required](#)
- [Either/Or](#)
- [General Education Electives](#)
- [Technical Electives](#)
- [Major/Minor Electives](#)

Each is defined below, together with the number of credits.

The order and speed at which you complete the degree requirements is your choice, provided you adhere to the [pre-requisite rules](#). In other words, there are many possible Plans of Study.

Two suggested plans of study are listed below: one for students intending to take the Aircraft Senior Design class, AAE45100, which we call the [Aeronautics concentration](#), the other for students intending to take the Spacecraft Senior Design class, AAE45000, or [Astronautics concentration](#). These two plans differ slightly starting in the Junior year, because of differing pre-requisites for the two senior design classes (See [Either/Or](#)) A standard single [8 semester plan](#), which many students come close to following. Students who want to spread out the requirements (which most ROTC students elect to do), might benefit from following the sample [9 semester plan](#).

It is important to understand that no single plan-of-study will suit all students. For this reason, every degree-seeking AAE student is expected to have and maintain an individual plan of study. These plans are posted on the AAE website in the ["My plan of Study"](#) site. You will need to login with your Purdue Career Account. If you are new to the system, follow the ["Instructions for First Draft."](#)

Basic Requirements

Required (85 cr)

Where one specific class is listed in the table of requirements, most students will take that class. Substitutions are possible, but the substitute must cover the same material, at the same or higher level, as the requirement (e.g., Phys27200 for Phys24100). The table lists some common substitutions. You should check with me first about anything else.

Either/Or (10 cr)

There are 4 cases where students normally choose between two options:

1. AAE35201 (structures) or AAE33401 (aerodynamics)
2. AAE37200 (Aircraft) or AAE43900 (Spacecraft) Propulsion
3. AAE42100 (Aircraft) or AAE44000 (Spacecraft) Vehicle Dynamics
4. AAE45100 (Aircraft) or AAE45000 (Spacecraft) Senior Design

Note that the choice of labs is often made before decisions regarding Major/Minor areas. It is normally based on nothing more than your preference for 20401 or 33301.

Aeronautics: AAE37200, 42100, and 45100

Astronautics: AAE43900, 44000, and 45000

- A typical Plan of Study for a student wishing to concentrate in [Aeronautics](#).
- A typical Plan of Study for those wanting to concentrate in [Astronautics](#).

See the section below titled [Course Availability](#) for the expected schedule of these classes.

General Education Electives (18 cr)

There are two sets of General Education rules current: one that applies to students who started at Purdue before Fall 2013 and another that applies to students who started at Purdue in or after Fall 2013.

In the “[old GEN ED rules](#)” there are 24 required credits of Humanities and Social Science, divided up into 3 cr required of First Year Composition, 3 cr of “FYE General Ed Elective”, and 18cr of Gen Ed electives beyond the first year. The distribution rules for the 18cr of electives are spelled out in the EFD cited.

The [New Gen Ed Rules](#), which clearly don’t apply to any students currently in AAE (but will for those coming into AAE in Fall ’14), remains at 24 cr overall, but with quite different distribution rules from before.

Technical Electives (6 cr)

Technical Electives are courses which are generally selected from engineering, science, management, entrepreneurship, or technology. A list of courses is included in this document which the faculty recommend as strengthening the AAE degree. Note that any engineering course is automatically included. Technical electives do not have to be selected from this list, and do not have to be closely related to aerospace engineering.

If a student completes either the advanced band (8 semesters) or advanced ROTC course (30000 and 40000 level courses), then six credit hours of these courses may be applied to this category of electives.

Pre-engineering courses (like MA15300) and recreational courses are not permitted as Technical Electives.

Major/Minor Electives (15 cr)

Courses in this category are to be chosen from AAE, or very closely related disciplines. The objective is for you to develop a concentration in some sub-areas of aerospace engineering that will make you a more desirable employee, or give you a head start on graduate study. The purpose of this discussion is to give you guidance on how to make these choices.

It is important to understand that your Purdue transcript and diploma will show that your degree is "BS in Aeronautical and Astronautical Engineering," regardless of what specialization you elect. So as far as Purdue University is concerned, your "major" is AAE, and your "minor", if you choose to do one, might be, for example, Physics. (See "Minors outside AAE" below.) The internal Major/Minor are departmental, not university, categories.

The School's required curriculum can be divided into five subdivisions: aerodynamics, design, dynamics and control, propulsion, and structures and materials. With the Major/Minor electives, you choose two of these subdivisions to study in greater depth.

Your major electives are 9 credits chosen from one of the above categories.

Your minor electives are 6 credits chosen from another of the above categories.

Lists of classes for each category are included in this document:

1. aerodynamics
2. design
3. dynamics and control
4. propulsion
5. structures and materials

The lists overlap and are not complete. In particular, temporary numbered courses (AAE49000 or 59000) are not listed, even though they might be perfectly acceptable. If you are in doubt about whether a particular course could count toward a major or minor, ask me.

If you are interested in pursuing a major or minor in an area that is not one of the above five, talk to me about it.

Minors outside AAE

Many departments at Purdue offer a "minor." If you complete their requirements, your transcript will show that you have earned a "BS in AAE with a minor in X.". All such minors will require some extra work on your part. (This "minor" has nothing to do with the "AAE minor area")

All final transcripts of students requesting minors are reviewed by the offering departments and either approved or denied. There is generally no formal mechanism to get prior approval. Some departments, like CS, ECE, MGMT and ECON, require that you get written permission to enroll in their courses (at least the non-introductory ones).

If you wish to pursue a minor you should get Lisa Crain to officially enroll you in it. This way the rules that apply to you are locked in (in case the offering department changes the rules).

Engineering Honors Program

Qualified students may participate in the Engineering Honors Program.

For more information about this, go to <https://engineering.purdue.edu/Engr/InfoFor/Honors>

Course Numbers and Levels

AAE45000/45100

Normally you will take the senior design class in your last semester before graduation, when you have the maximum possible background. There are many circumstances, however, in which you can move it to your next-to-the-last semester. For example: the class style is different in the fall and spring, and you may have a strong preference for one over the other. Or, electives you want might be available only in your last semester and in conflict with senior design.

AAE49000

AAE49000 (and 59000) are variable title, variable credit "courses" that have no particular meaning until a faculty member assigns a meaning by defining a specific title and credit value and content.

Instructions for adding AAE49000 Special Projects

Since AAE49000 (or 59000) has no a prior definition, you will need to upload a description of it in your Plan of Study if you want it to apply to the BS-AAE degree. A form for this purpose is posted on the AAE Plan of Study webpage. Use it for variable title courses in other departments as well, as appropriate (like ME49700). You do not need this documentation if you use it as a Technical Elective or extra.

AAE49000 is the designation for our Variable Title, Variable Credit course.
(59000 is the same at graduate level..the comments below apply equally)

By design, this can be almost anything, so confusion is natural.

Some explanation is needed about how these courses can be used in your POS and what kind of documentation you will or won't need.

1) Scheduled courses

Some AAE49000 courses are listed on the "Current and Future AAE Course Plans and Schedules"
<https://engineering.purdue.edu/~aaeugrad/CourseSchedules/>

along with title and instructor.

Starting in Spring 2014, each such entry includes a statement about how that course may be used in your Plan of Study.

For example, in the Spring 2014 plan:

AAE49000, Design/Build/Test under Sullivan states: "UG POS category; Design".

That means if you have declared Design as a Major or Minor Area, you can put DBT there. It doesn't need further documentation

2) **Unscheduled courses**

Many students arrange to do a 49000 (or 59000) project, which you do with a special Form 23V that Lisa can help process. Once the Form 23V is submitted to the Registrar, it will appear in the MyPurdue Schedule of Classes.

These are called unscheduled courses because they do not appear in the <https://engineering.purdue.edu/~aaeugrad/CourseSchedules/>

If you want to use one of these in your POS as a Major or Minor Elective, you must prepare a description of it, including the instructor's signature attesting to how it may be used in your POS.

These forms can be downloaded from the AAE POS web page <https://engineering.purdue.edu/AAE/Academics/Undergrad/pos/AAE490CourseDescriptionForm.pdf>

Usually this happens after the project is begun, and long after you have submitted your POS for Approval before registration. So Approval of the POS in that case will be dependent on the eventual submission of the required documents.

3) **Scheduled courses with non-approved POS category**

If you want to take a scheduled 49000 for some purpose other than that listed, you will need to follow the same documentation policy as for unscheduled courses. For example, if you want to count DBT as an Aerodynamics elective, you would need to prepare the 49000 Course Description Form showing how it is an Aerodynamics project and get the instructor to approve it.

4) **Warning:**

AAE49000 (and 59000) are said to be "Repeatable". That means you can take them as many times as you like and each take counts as a new course and grade. That's different from all permanent numbered course... like AAE33300, say. These are "Non-Repeatable". If you retake a Non-Repeatable course the new grade replaces the old one in your GPA.

There are two consequences of this. If you wanted to take some project course with a permanent number twice ... AAE45100, say, you would have to arrange for the 2nd take to be a 49000 if you wanted them to count separately.

The second consequence is that you cannot get rid of the grade in a Repeatable course by repeating it. If you register for a 49000 or 59000 and get a bad grade... there is nothing you can do about it.

So be careful. Know the risks you take in registering for a 49000 or 59000 course.

50000 Level Classes

These are so called dual-level classes, which can be taken by either undergraduate or graduate students. If you are interested in one, make sure that you have the required background. However, it is normal for students to take 50000 level classes as part of their BS POS, since there are more 50000 than 40000 level electives.

60000 Level Classes

Undergraduates need the permission of the instructor and must have senior standing and at least a 3.2 GPA.

Special Credits

Graduate Credit

Some 50000 or 60000 level classes you take but do not use in the BS plan of study can be used for graduate credit. You need to be classified as a junior or senior, and to get a grade of B or better. (See [University Regulations](#)). I will review your transcripts after you graduate, at which point I can authorize them for grad credit.

Any courses you want to use this way should be noted in your [Plan of Study](#).

Transfer Credit

If you want to take a course at some other university, you should first look it up in the [Purdue Transfer Credit Database](#). If you don't find it there, follow the instructions on how to get Admissions to evaluate it and put it into the database. If it is listed, but as "Undistributed" (e.g. PHIL2XXXX), then you would need to send me the course description and an explanation of what you want to do with it in your POS.

Never register for a course outside Purdue before it has been approved in writing. Avoid taking engineering courses from non-accredited programs.

Note that only credit transfers in, not grades. Transfer credit will have no effect on your GPA at Purdue.

Co-Op and Internship

Students doing one of the Purdue Co-Op programs must register when they are on work assignment under the AAEXXX99 designation. The correct sequence of course numbers to use depends on which certificate program is followed. You will get instructions when you first sign up.

AAE 39000 is the analogous class that any student can register for (with departmental approval) while on work assignment outside a formal co-op arrangement. The purpose of this registration is to make you officially, and legally, a student, even though you are off campus. Student Visa holders (but not US citizens) will need to register for 39000 even for summer jobs to comply with INS rules.

Students who have registered for either AAEXXX99 or AAE39000, and have submitted a written report on their experiences, may register in the following semester for AAE44300, for one credit per registration. These credits can be applied to the Technical Elective category.

Course Information

Course Availability

AAE has always had the policy of offering all required courses both in the fall and spring semesters, if at all possible.

Courses which are part of an either/or requirement are generally offered once a year, in alternating semesters. The exception is the labs, 33401/35201, which have always been offered both semesters. The two senior design classes, AAE45000 and 45100 are also usually available both semesters, though there have been times when we were only able to offer one of them.

Electives are different: Some are offered only once a year; some are offered every two years; while some have not been offered in a while, and we keep them in the hope that we may be able to offer them again someday. This means that lists of classes, like the ones in this document or in the catalog, are unreliable sources of information on what is going to be available in a given semester. Always check the [Purdue course schedule](#) to see what is available. If a schedule is not yet available for the semester of interest, look at the last analogous semester.

Course Schedules

Teaching plans for AAE are posted a year ahead at <https://engineering.purdue.edu/~aaegrad/CourseSchedules/>

This site also posts class schedules as soon as they are created (September in the fall, February in the spring). This AAE class schedule is posted early so that potential problems can be identified and perhaps fixed before the schedule is submitted to the university.

Once the official Purdue schedule is posted, at https://selfservice.mypurdue.purdue.edu/prod/bwckschd.p_disp_dyn_sched, you should refer to that. It shows changes and updates as they are made.

Summer Classes

Occasionally, the department offers some AAE courses during the summer (recently AAE33400 and 35200). You must check the summer schedule when it appears (in February), and plan accordingly.

The University is encouraging more summer offerings in its pursuit of a Trimester calendar. You may see an increasing number of courses available in the coming years.

The basic math, science, CGT16300, ME20000, and many general ed. classes are usually available in the summer. Therefore, if you plan on taking a summer session, it is better to do it early in your program, when there are lots of courses to take.

Many students also arrange [AAE49000](#) projects during the summer.

BS Curriculum Requirements in Aeronautics and Astronautics

The basic BSAAE degree program has a minimum of 130 credit hours including the Freshman Engineering requirements. (129 credit hours for those of entered AAE before Spring 2012).

- **Pass-Fail Courses:**

The required courses and the major and minor area courses cannot be taken on a pass/not-pass basis.

- **GPA Rule :**

Students must have a 2.0 GPA Average in Required Courses and Major/Minor electives to graduate. Your Major GPA is calculated and displayed in your MyPOS.

Students must have a 2.0 overall GPA to graduate from Purdue.

Note: You do not have to repeat any course in which you receive a grade of "D-" or better. If you do choose to repeat a course you have passed, be aware that the new grade will replace the old one in your GPA, whether it is higher or lower.

- **Business Rule:**

Students must take at least 3cr of economics, entrepreneurship or management. This requirement will fit into the general education or technical elective categories depending on the course taken.

Commonly taken courses to satisfy this rule include ECON25100, ECON25200, MGMT20000, ENTR20000, IE 34300, though other choices are possible.

- **Communications Rule:**

For students entering AAE before Fall 2008:

- Students must take at least 3cr of course work involving oral or written communications (beyond Comp 1)

For students entering AAE in or after Fall 2008:

- Students must take at least 3cr of course work involving oral or written communications at the 30000 or higher level.

Courses commonly taken to satisfy this rule include ENGL 42000, 42100, COM 31400, 31500, 32000, 32500. You are not limited to these examples.

- For students beginning in First Year Engineering in or after Fall2009, the requirements of ENGR 100 and ENGR 126 are replaced with a two semester sequence of 2 credit courses ENGR13100 & ENGR13200, "Transforming Ideas to Innovation I and II"

| Course (or Category) | Min Credits | Common Substitution (or content of category) |
|---|-------------|--|
| Mathematics: | | |
| MA16500 | 4 | †MA16100 (5) |
| MA16600 | 4 | †MA16200 (5), MA17300 (5) |
| MA26100 | 4 | MA 17400 (4), MA27100(5) |
| MA26500 | 3 | MA35100 (3) |
| MA26600 | 3 | MA 36600 (4) |
| MA30400 | 3 | MA30300(3) |
| Sciences: | | |
| CHEM11500 | 4 | † |
| PHYS17200 | 4 | † |
| PHYS24100 | 3 | PHYS27200 (4) |
| Communications : | | |
| ENGL Composition | 3 | † |
| Communications | 3 | COM or ENGL COMP at appropriate level |
| General Education Electives | 18 | Liberal Arts courses |
| Basic Engineering Skills | | |
| ENGR | 4 | † |
| CS15900 | 3 | ‡ |
| CGT16300 | 2 | |
| Professional Development | | |
| AAE20000,30000,40000 | 0,0,1 | |
| Laboratories: | | |
| AAE20401 | 1 | |
| AAE33301 | 1 | |
| Lab Elective | 1 | AAE33401 or AAE35201 |
| AAE36401 | 1 | ECE28201 |
| Structures: | | |
| AAE20400 | 3 | |
| AAE35200 | 3 | |
| Dynamics and Control: | | |
| AAE20300 | 3 | |
| AAE34000 | 3 | |
| Vehicle Dynamics: | 3 | AAE42100 (Aircraft) or AAE44000 (Spacecraft) |
| AAE30100 | 3 | |

| | | |
|--------------------------|---|---|
| AAE36400 | 3 | ECE38200 |
| Aerodynamics: | | |
| AAE33300 | 3 | |
| AAE33400 | 3 | |
| Propulsion: | | |
| ME20000 | 3 | |
| Propulsion | 3 | AAE37200 (Aircraft) or AAE43900 (Spacecraft) |
| Elective Categories: | | |
| Technical Electives | 6 | |
| Major Electives | 9 | |
| Minor Electives | 6 | |
| Design : | | |
| AAE25100 | 3 | |
| Senior Design | 3 | AAE45100 (Aircraft) or AAE45000 (Spacecraft) |

† First Year Engineering Requirement. See [FYE](#).

‡ CS15900 is required by AAE and is normally taken to satisfy FYE Science Elective.

Summary of Pre-requisites for Required Courses

(The "asterisked" courses are my recommendations; they are not listed in the catalog this way)

| | Prerequisites | Corequisites |
|----------|---------------------------------------|----------------------------|
| AAE20300 | PHYS17200 | MA26100, MA26500(*) |
| AAE20400 | AAE20300 | AAE20401(*) |
| AAE20401 | | AAE20400 |
| AAE25100 | ENGR13200, CGT16300 | AAE20000 |
| AAE30100 | AAE20000, MA26500 & MA26600 | AAE25100 |
| MA30400 | MA26500 & MA26600 | |
| AAE33300 | AAE20000, AAE20300 | MA30400, MA30300, AAE25100 |
| AAE33301 | | AAE33300 |
| AAE33400 | AAE33300, ME20000 ,AAE33301 | |
| AAE33401 | AAE33301(*) | AAE33400 |
| AAE35200 | AAE20000, AAE20400, AAE20401 | AAE25100 |
| AAE35201 | AAE20401(*) | AAE35200 |
| AAE37200 | AAE33300(*), ME20000(*) | AAE33400 |
| AAE36400 | AAE30100 | |
| AAE36401 | AAE36400 | |
| AAE43900 | AAE33400(*), AAE30000, ME20000 | AAE33400 |
| AAE42100 | AAE34000, AAE30000 | AAE364000 |
| AAE44000 | AAE34000,36400(*) | |
| AAE45000 | AAE33400, AAE3400, AAE35200, AAE36400 | AAE40000 |
| AAE45100 | AAE33400, AAE3400, AAE35200, AAE36400 | AAE40000 |

Plans of Study

Standard 8 Semester Plan

The standard Plan of Study shows one way of completing the BS-AAE requirements in 8 semesters.

| | | | | | | | | |
|---|------------------|---------------------------------------|--------------------|-------------------|-------------------|------------------|------------------|----|
| 1 | MA 16500 | CHM 11500 | CGT 16300 | ENGR 13100 | | | ENGL COMP | 15 |
| | Calc 1 4 | Chem 1 4 | Graphics 2 | Innovation 1 2 | | | Composition 3 | |
| 2 | MA 16600 | PHYS 17200 | CS 15900 | ENGR 13200 | | | Gen Ed | 16 |
| | Calc 2 4 | Mechanics 4 | C Programming 3 | Innovation 2 2 | | | 3 | |
| 3 | MA 26100 | MA 26500 | AAE 25100 | AAE 20300 | | AAE 20000 | Gen Ed | 17 |
| | Multivar. 4 | Linear Alg 3 | Intro Design 3 | Statics&Dyn 3 | | Seminar 1 0 | 3 | |
| 4 | MA 26600 | ME 20000 | PHYS 24100 | AAE 20400 | AAE 20401 | | Gen Ed | 16 |
| | Diff Eq I 3 | Thermo 3 | Elec & Mag 3 | Structures I 3 | Struc Lab 1 | | 3 | |
| 5 | MA 30400 | AAE 30100 | AAE 33300 | AAE 33301 | AAE 35200 | AAE 30000 | Gen Ed | 16 |
| | Diff Eq 2 3 | Signals 3 | Fluid Mech 3 | Fluids Lab 1 | Structures 2 3 | Seminar 2 0 | 3 | |
| 6 | AAE 34000 | PROPUL | AAE 33400 | Lab ELECT | AAE 36400 | | Gen Ed | 16 |
| | Dyn & Vib 3 | 37200 (jet) or 43900 (rocket) 3 | Aerodyn 3 | Stru or Aero 1 | Controls 3 | | 3 | |
| 7 | TECH EL | VEH DYN | MINOR EL | MAJOR EL | AAE 36401 | AAE 40000 | Gen Ed | 17 |
| | | 42100 (air) or 44000 (space) 3 | | | Controls Lab 1 | Seminar 3 1 | 3 | |
| 8 | TECH EL | DESIGN | MINOR EL | MAJOR EL | MAJOR EL | | Gen Ed | 18 |
| | | 45000 (space) or 45100 (air) 3 | | | | | 3 | |

Extended Plan-9 Semester

The standard Plan of Study shows one way of completing the BS-AAE requirements in 8 semesters. Students are not required to do it this way. As long as pre-requisite rules are followed, other arrangements are possible. The following plan, for example, distributes the AAE requirements over 9 semesters. This arrangement is recommended, in particular, for ROTC students, since it allows room to add the ROTC requirements without overload.

| | | | | | | | | |
|---|------------------|----------------------------------|-------------------|-------------------|------------------|------------------|------------------|----|
| 1 | MA 16500 | CHM 11500 | CGT 16300 | ENGR 13100 | | | ENGL COMP | 15 |
| | Calc 1 | Chem 1 | Graphics | Innovation 1 | | | Composition | |
| | 4 | 4 | 2 | 2 | | | 3 | |
| 2 | MA 16600 | PHYS 17200 | CS 15900 | ENGR 13200 | | | Gen Ed | 16 |
| | Calc 2 | Mechanics | C Programming | Innovation 2 | | | | |
| | 4 | 4 | 3 | 2 | | | 3 | |
| 3 | MA 26100 | MA 26500 | AAE 25100 | AAE 20300 | | AAE 20000 | Gen Ed | 16 |
| | Multivar. | Linear Alg | Intro Design | Statics&Dyn | | Seminar 1 | | |
| | 4 | 3 | 3 | 3 | | 0 | 3 | |
| 4 | MA 26600 | | PHYS 24100 | AAE 20400 | AAE 20401 | | Gen Ed | 13 |
| | Diff Eq I | | Elec & Mag | Structures I | Struc Lab | | | |
| | 3 | | 3 | 3 | 1 | | 3 | |
| 5 | MA 30400 | ME 20000 | AAE 33300 | AAE 33301 | | AAE 30000 | Gen Ed | 13 |
| | Diff Eq 2 | Thermo | Fluid Mech | Fluids Lab | | Seminar 2 | | |
| | 3 | 3 | 3 | 1 | | 0 | 3 | |
| 6 | AAE 34000 | PROPUL | AAE 35200 | AAE 30100 | | | | 12 |
| | Dyn & Vib | 37200 (jet) or 43900 (rocket) | Structures 2 | Signals | | | | |
| | 3 | 3 | 3 | 3 | | | | |
| 7 | TECH EL | AAE 33400 | Lab ELECT | MAJOR EL | AAE 36400 | AAE 40000 | Gen Ed | 17 |
| | | Aerodyn | Stru or Aero | | Controls | Seminar 3 | | |
| | 3 | 3 | 1 | 3 | 3 | 1 | 3 | |
| 8 | TECH EL | VEH DYN | MINOR EL | MAJOR EL | AAE 36401 | | Gen Ed | 16 |
| | | 42100 (air) or 44000 (space) | | | Controls Lab | | | |
| | 3 | 3 | 3 | 3 | 1 | | 3 | |
| 9 | | DESIGN | | MINOR EL | MAJOR EL | | Gen Ed | 12 |
| | | 45000 (space) or 45100 (air) | | | | | | |
| | | 3 | | 3 | 3 | | 3 | |

Extended Plan-10 Semester

The standard Plan of Study shows one way of completing the BS-AAE requirements in 8 semesters. Students are not required to do it this way. As long as pre-requisite rules are followed, other arrangements are possible. The following plan, for example, distributes the AAE requirements over 10 semesters. This arrangement is sometimes used by ROTC students, since it allows room to add the ROTC requirements without overload.

| | | | | | | | | |
|----|------------------|---------------------------------|----------------------------------|-------------------|-------------------|------------------|------------------|----|
| 1 | MA 16500 | CHM 11500 | CGT 16300 | ENGR 13100 | | | ENGL COMP | 15 |
| | Calc 1 | Chem 1 | Graphics | Innovation 1 | | | Composition | |
| | 4 | 4 | 2 | 2 | | | 3 | |
| 2 | MA 16600 | PHYS 17200 | CS 15900 | ENGR 13200 | | | Gen Ed | 16 |
| | Calc 2 | Mechanics | C Programming | Innovation 2 | | | | |
| | 4 | 4 | 3 | 2 | | | 3 | |
| 3 | MA 26100 | MA 26500 | AAE 25100 | AAE 20300 | | AAE 20000 | | 13 |
| | Multivar. | Linear Alg | Intro Design | Statics&Dyn | | Seminar 1 | | |
| | 4 | 3 | 3 | 3 | | 0 | | |
| 4 | MA 26600 | | | AAE 20400 | AAE 20401 | | Gen Ed | 10 |
| | Diff Eq I | | | Structures I | Struc Lab | | | |
| | 3 | | | 3 | 1 | | 3 | |
| 5 | MA 30400 | ME 20000 | AAE 35200 | | | AAE 30000 | Gen Ed | 12 |
| | Diff Eq 2 | Thermo | Structures 2 | | | Seminar 2 | | |
| | 3 | 3 | 3 | | | 0 | 3 | |
| 6 | AAE 34000 | AAE 33300 | AAE 33301 | AAE 30100 | PHYS 24100 | | | 13 |
| | Dyn & Vib | Fluid Mech | Fluids Lab | Signals | Elec & Mag | | | |
| | | 3 | 1 | | 3 | | | |
| 7 | TECH EL | AAE 33400 | PROPUL | | | | Gen Ed | 12 |
| | | Aerodyn | 37200 (jet) or 43900 (rocket) | | | | | |
| | 3 | 3 | 3 | | | | 3 | |
| 8 | TECH EL | VEH DYN | AAE 36400 | Lab ELECT | | | Gen Ed | 13 |
| | | 42100 (air) or 44000 (space) | Controls | Stru or Aero | | | | |
| | 3 | 3 | 3 | 1 | | | 3 | |
| 9 | | AAE 36401 | MAJOR EL | MINOR EL | MAJOR EL | AAE 40000 | Gen Ed | 14 |
| | | Controls Lab | | | | Seminar 3 | | |
| | | 1 | 3 | 3 | 3 | 1 | 3 | |
| 10 | | DESIGN | | MINOR EL | MAJOR EL | | Gen Ed | 12 |
| | | 45000 (space) or 45100 (air) | | | | | | |
| | | 3 | | 3 | 3 | | 3 | |

Suggested Plan of Study with Aeronautics Concentration

Credit Hours Required for Graduation: 130

CGT16300 is required in the AAE Curriculum.

Sophomore 3

- (3) AAE20300 (Aeromechanics I)
- (4) MA26100 (Multivariate Calculus)
- (3) MA26500 (Linear Algebra)
- (3) AAE25100 (Intro. Aerospace Design)
- (3) General Education Elective
- (0) AAE20000 (Undergrad Seminar)
- (16)

Sophomore 4

- (3) AAE20400 (Aeromechanics II)
- (1) AAE20401 (Aeromechanics II Lab)
- (3) PHYS24100 (Electricity and Optics)
- (3) ME20000 (Thermodynamics)
- (3) MA26600 (Differential Equations)
- (3) General Education Elective
- (16)

Junior 5

- (3) AAE33300 (Fluid Mechanics)
- (1) AAE33301 (Fluid Mechanics Lab)
- (3) AAE35200 (Structural Analysis I)
- (3) MA30400 (Diff. Eqns. For Engr. & Sci.)
- (3) AAE3010000
- (3) General Education Elective
- (0) AAE30000 (Undergrad Seminar)
- (16)

Junior 6

- (3) AAE33400 (Aerodynamics)
- (1) AAE33401 (Aerodynamics Lab) OR AAE35201 (Structural Anal. I Lab)
- (3) AAE34000 (Dynamics & Vibration)
- (3) AAE37200 (Jet Propulsion Power Plts.)
- (3) AAE36400 (Control Systems Analysis)
- (3) General Education Elective
- (16)

Senior 7

- (3) AAE42100 (Flight Dyn. & Control)
- (1) AAE36401 (Controls Laboratory)
- (3) Technical Elective
- (6) Major or Minor Area Electives
- (3) General Education Elective
- (1) AAE40000 (Undergrad Seminar)
- (17)

Senior 8

- (3) AAE45100 (Aircraft Design)
- (9) Major or Minor Area Electives
- (3) Technical Elective
- (3) General Education Elective
- (18)

Suggested Plan of Study with Astronautics Concentration

Credit Hours Required for Graduation: 130

CGT16300 is required in the AAE Curriculum.

Sophomore 3

- (3) AAE20300 (Aeromechanics I)
- (4) MA26100 (Multivariate Calculus)
- (3) MA26500 (Linear Algebra)
- (3) AAE25100 (Intro. Aerospace Design)
- (3) General Education Elective
- (0) AAE20000 (Undergrad Seminar)
- (16)

Sophomore 4

- (3) AAE20400 (Aeromechanics II)
- (1) AAE20401 (Aeromechanics II Lab)
- (3) PHYS24100 (Electricity and Optics)
- (3) ME20000 (Thermodynamics)
- (3) MA26600 (Differential Equations)
- (3) General Education Elective
- (16)

Junior 5

- (3) AAE33300 (Fluid Mechanics)
- (1) AAE33301 (Fluid Mechanics Lab)
- (3) AAE35200 (Structural Analysis I)
- (3) MA30400 (Diff. Eqns. For Engr. & Sci.)
- (3) AAE30100
- (3) General Education Elective
- (0) AAE30000 (Undergrad Seminar)
- (16)

Junior 6

- (3) AAE33400 (Aerodynamics)
- (1) AAE33401 (Aerodynamics Lab) OR
AAE35201 (Structural Anal. I Lab)
- (3) AAE34000 (Dynamics & Vibration)
- (3) AAE36400 (Control Systems Analysis)
- (3) Technical Elective
- (3) General Education Elective
- (16)

Senior 7

- (3) AAE43900 (Rocket Propulsion)
- (1) AAE36401 (Controls Laboratory)
- (3) Technical Elective
- (6) Major or Minor Area Electives
- (3) General Education Elective
- (1) AAE40000 (Undergrad Seminar)
- (17)

Senior 8

- (3) AAE44000 (Spacecraft Attitude Dyn.)
- (3) AAE45000 (Spacecraft Design)
- (9) Major or Minor Area Electives
- (3) General Education Elective
- (18)

Suggested Major or Minor Area Electives

Note: Only permanently numbered courses will be listed here. Most new courses are offered under temporary numbers (AAE 49000 or 59000). These may be perfectly good Major or Minor electives, so keep an eye out for such things every semester.

Aerodynamics

Suggested Major or Minor Area Electives

(1) Fall Semester (2) Spring Semester

AAE41200 Intro. Computational Fluid Dynamics (1)

AAE41600 Viscous Flows

AAE41800 Zero-Gravity Flight Experiment

AAE51100 Introduction to Fluid Mechanics (1)

AAE51200 Computational Aerodynamics (2)

AAE51400 Intermediate Aerodynamics (2)

AAE51500 Rotorcraft Aerodynamics

AAE51700 Unsteady Aerodynamics

AAE51800 Low Gravity Dynamics

AAE51900 Hypersonic Aerothermodynamics

AAE52000 Experimental Aerodynamics (2)

ME41300 Noise Control (2)

ME50900 Intermediate Fluid Mechanics (1)

ME51000 Gas Dynamics (2)

ME51300 Engineering Acoustics (1)

Design

Suggested Major or Minor Area Electives

(1) Fall Semester (2) Spring Semester

| | |
|----------|---|
| AAE35103 | Aerospace Systems Design(1) |
| AAE41800 | Low Gravity Flight Experiment (1, even years) |
| AAE45000 | Spacecraft Design (1&2) |
| AAE45100 | Aircraft Design (1&2) |
| AAE45400 | Design of Aerospace Structures (1) |
| AAE50800 | Optimization in Aerospace Engineering (2, even years) |
| AAE53500 | Propulsion Design, Build, Test (2) |
| AAE55000 | Multidisciplinary Design Optimization (1) |
| AAE55100 | Design Theory and Methods for Aerospace Systems (2) |
| AAE56000 | System-of-Systems Modeling & Analysis |

Students wishing to major in Design must take AAE35103 (applies to students entering AAE in the Fall of 2011 or after).

Other Purdue University classes that have design content applicable to aerospace engineering are listed below.

| | |
|----------|--|
| CGT22600 | Introduction to Constraint-Based Modeling |
| CGT32600 | Introduction to 3D Surface Geometry |
| | (Note: The CGT department wants you to sign up for the Product Lifecycle Management (PLM) to take these courses) |
| | (Note: Only one CGT course will be counted toward the Major or Minor Area.) |
| ME35200 | Machine Design |
| ME44400 | Computer-Aided Design and Prototyping |
| ME55300 | Product & Process Design |
| ME55700 | Design for Manufacturability |
| ME56100 | Optimal Design: Theory with Practice |

Note: Access to several ME courses is very restricted due to space limitations

Dynamics and Control

Suggested Major or Minor Area Electives

(1) Fall Semester (2) Spring Semester

- AAE42100 Flight Dynamics and Control (1)
- AAE44000 Spacecraft Attitude Dynamics (2)
- AAE50700 Basic Mechanics III (1)
- AAE50800 Optimization in Aerospace Engineering (2, even years)
- AAE53200 Orbit Mechanics (1)
- AAE54600 Aerospace Structural Dynamics & Stability (1)
- AAE55600 Aeroelasticity
- AAE56400 Systems Analysis and Synthesis (1)
- AAE56500 Guidance and Control of Aerospace Vehicles (2)
- AAE56700 Applied Stochastic Processes (2)
- AAE56800 Applied Optimal Control And Estimation
- AAE57500 Satellite Navigation and Positioning (1) (was 590G)

- ME56200 Advanced Dynamics (2)
- ME56400 Vibrations of Discretized Systems (1)
- ME56500 Vehicle Dynamics (2)
- ME57500 Theory and Design of Control Systems (1)

- STAT51100 Statistical Methods
- IE23000 Probability And Statistics In Engineering I
- ECE30200 Probabilistic Methods In Electrical And Computer Engineering

Propulsion

Suggested Major or Minor Area Electives

(1) Fall Semester (2) Spring Semester

AAE37200 Jet Propulsion Power Plants (2)
AAE41200 Introduction to Computational Fluid Dynamics (1)
AAE43900 Rocket Propulsion (1)
AAE53500 Propulsion Design, Build, Test
AAE53600 Advanced Energy Conversion
AAE53700 Hypersonic Propulsion
AAE53800 Air-Breathing Jet Propulsion
AAE53900 Advanced Rocket Propulsion (2)

ME30000 Thermodynamics II (1&2)
ME31500 Heat and Mass Transfer (1&2) **OR**
NUCL35100 Nuclear Thermal Hydraulics II (2)
ME43300 Principles of Turbomachinery (2)
ME52600 Spray Applications and Theory

Students majoring in Aerodynamics may not choose AAE41200 to fulfill Propulsion Minor Requirements. In addition, we also require that at least one of the elected courses must be from AAE.

If you took CHM37300 or 37400 before Spring 2010, they will be accepted in your Plan of Study

Structures

Suggested Major or Minor Area Electives

(1) Fall Semester (2) Spring Semester

AAE45300 Matrix Methods of Aerospace Structures (2)

AAE45400 Design of Aerospace Structures (1)

AAE54600 Aerospace Structural Dynamics and Stability (1)

AAE54700 Experimental Stress Analysis (2)

AAE55000 Multidisciplinary Design Optimization in Aerospace Engineering (1)

AAE55200 Nondestructive Evaluation of Structures and Materials (2, even years)

AAE55300 Elasticity in Aerospace Engineering (1)

AAE55400 Fatigue of Structures and Materials (1)

AAE55500 Mechanics of Composite Materials (2)

AAE55600 Aeroelasticity

AAE55800 Advanced Matrix Methods in Aerospace Structures (1)

AAE55900 Mechanics of Friction and Wear (2, odd years)

ME56400 Vibrations of Discretized Systems (1)

ME56900 Mechanical Behavior of Materials (2)

MSE23000 Structure and Properties of Materials (1&2)

Suggested Technical Electives

The following courses are recommended by the AAE faculty as Technical Electives. In addition, any course which appears in a Major/Minor Electives list is recommended.

ASTR36300 Intermediate Astronomy I

ASTR36400 Intermediate Astronomy II

AT10100 Gateway to Aviation Technology

AT21700 Aviation Meteorology

AT25800 Air Transportation

AT26200 Basic Aircraft Powerplant Technology

AT27100 Powerplant Propulsion Systems

AT27000 Introduction to Composite Technology

AT27800 Nondestructive Testing for Aircraft

AT30000 Aviation Infrastructure

AT32900 Advanced Navigation

AT35000 Advanced Aircraft Powerplant Technology

AT36900 Air Traffic Control

AT37600 Aircraft Gas Turbine Engine Technology I

AT47600 Aircraft Gas Turbine Engine Technology II

CE36100 Transportation Engineering

CE39200 Stochastic Concepts and Methods in Civil Engineering

CE47000 Structural Design in Metals

CE56300 Airport Design

CE56400 Airport Systems Planning and Analysis

CGT22600 Constraint-based Modeling

CGT32600 Manufacturing Graphics Standards

CGT42300 Manufacturing Documentation Prod. & Management

CGT42600 Industrial Applications for Simulation

CHM 37300 Physical Chemistry I

CHM 37400 Physical Chemistry II

CS25100 Data Structures (1, 2)

CS31400 Numerical Methods (1, 2)

EAS22500 Science of the Atmosphere

EAS32500 Aviation Meteorology

EAS42100 Atmospheric Thermodynamics
 EAS 42200 Atmospheric Dynamics I

ECE255 Introduction to Electronic Analysis and Design
 ECE270 Introduction to Digital System Design
 ECE302 Probabilistic Methods in Electrical and Computer Engineering
 IE23000 Probability and Statistics in Engineering I
 IE33500 Operations Research and Optimization
 IE33600 Operations Research and Stochastic Models
 IE34300 Engineering Economics

MA51000 Vector Calculus
 MA51100 Linear Analysis
 MA52000 Boundary Value Problems
 MA52300 Partial Differential Equations
 MA52500 Complex Analysis

ME31500 Heat and Mass Transfer (1, 2)
 ME36300 Principles and Practices of Manufacturing Processes (1)
 ME36500 Systems and Measurements (1, 2)
 ME41300 Noise Control (2)
 ME44400 CAD and Prototyping (1, 2)
 ME49200 Technology and Values (2)
 ME58100 Numerical Methods in Mechanical Engineering (1)

MSE23000 Structure and Properties of Materials
 MSE23500 Materials Properties Laboratory
 MSE24000 Processing and Properties of Materials (MSE230 is a pre-requisite)
 MSE36700 Materials Processing Laboratory (I think that AAE20400 and 35200 would fit pre- requisite)
 MSE38200 Mechanical Response of Materials

PHYS33000 Intermediate Electricity and Magnetism
 PHYS34200 Modern Physics
 PHYS43500 Introduction to Plasma Physics
 PHYS56000 Astrophysics

Aeronautics Electives

The following courses are specifically about, or have significant content related to, aircraft and atmospheric flight. (Neither Astronautics nor Aeronautics are intended to be Major or Minor areas of specialization; this list is provided as a guide.)

- AAE37200 Jet Propulsion Power Plants (2)
- AAE42100 Flight Dynamics and Control (1)
- AAE45100 Aircraft Design (1,2)
- AAE41200 Intro. Computational Fluid Dynamics (1)
- AAE41600 Viscous Flows
- AAE51100 Introduction to Fluid Mechanics (1)
- AAE51200 Computational Aerodynamics (2)
- AAE51400 Intermediate Aerodynamics (2)
- AAE52000 Experimental Aerodynamics (2)
- AAE53800 Airbreathing Propulsion (1)
- AAE55600 Aeroelasticity (2)
- AAE56500 Guidance and Control of Aerospace Vehicles (2)

Astronautics Electives

The following courses are specifically about, or have significant content related to, space flight. (Neither Astronautics nor Aeronautics are intended to be Major or Minor areas of specialization; this list is provided as a guide.)

AAE43900 Rocket Propulsion (1)

AAE44000 Spacecraft Attitude Dynamics (2)

AAE41800 Low Gravity Experiments (2)

AAE45000 Spacecraft Design (1,2)

AAE51800 Low Gravity Fluid Mechanics

AAE51900 Hypersonic Aerothermodynamics

AAE53200 Orbit Mechanics (1)

AAE53500 Rocket Combustor Design Build Test (2)

AAE53600 Advanced Energy Conversion

AAE53900 Advanced Rocket Propulsion (2)

AAE57500 Satellite Navigation and Positioning (1)

General Education Requirements

For students in Engineering matriculating at Purdue in the time frame 2002 - Fall 2013, the requirements for General Education are set out in EFD55-98, copied below.

For students matriculating at Purdue Fall 2013 and after, the University's Core Curriculum takes effect. Its implementation within Engineering is detailed in EFD No. 43-13, which supersedes 55-98, and is also copied below.

College of Engineering General Education Program

While a comprehensive understanding of science and mathematics is central and foundational to effective engineering practice, real-world engineering problems are both complex and situated within dynamic social, political, and cultural contexts. Therefore, well-rounded engineering curricula must also include courses that encompass the breadth of human experience and culture, both past and present. Such courses may include, but are not limited to, those that explore individual behavior, social and political structures, aesthetic values, modes and dynamics of communication, philosophical and ethical thought, and cognitive processes. These types of courses provide engineering students with a framework for rational inquiry, critical evaluation, and judgment when dealing with issues that are non-quantifiable, ambiguous, and/or controversial. In addition, they offer engineering students the opportunity to develop interests and insights that will deepen their appreciation for the diversity of the world in which they live and work.

Based on these premises, the goals of the College of Engineering General Education Program are to

- Provide the broad education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context.
- Support and complement the technical content of the engineering curricula through coursework that emphasizes such skills as written communication, oral communication, information literacy, cultural awareness, leadership, innovation, entrepreneurship, and managing change.

These goals are consistent with the objectives of the College of Engineering's *Engineer of 2020*¹ initiative, as well as the objectives of Purdue University's *Undergraduate Outcomes-Based Curriculum*².

To these ends, all B.S. students in the Schools of Engineering are required to complete a general education program of at least 24 credit hours, of which, at least 18 credit hours must be taken outside of the Colleges of Engineering, Science, and Technology. This program consists of two components:

1. Foundational Learning Outcomes³

- Students must select from the list of courses approved by the University Core Council (UCC) to satisfy all six of the Foundational Learning Outcomes listed below.

| | | |
|-----------------------|-------------------------|--------------------------------|
| Written Communication | Oral Communication | Information Literacy |
| Humanities | Behavior/Social Science | Science, Technology, & Society |

- Students must earn a C- or better in order to receive credit towards meeting the Foundational Learning Outcome and this General Education Program.

2. Programmatic Requirements

- Sufficient credit hours to meet the minimum 24 credit hour requirement.
- At least 6 credit hours must come from courses at the 30000-level or above, or from courses with a required prerequisite in the same department.
- Other requirements are at the discretion of the individual programs.

The requirements and guidelines for these components are further explained in the following sections.

¹Engineering Faculty Document 15-06 (April 9, 2007)

²University Senate Document 11-7 (February 20, 2012)

³The Science and Quantitative Reasoning Foundational Learning Outcomes are handled elsewhere in the

engineering curricula.

Foundational Learning Outcomes

Students must select from the list⁴ of courses approved by the University Core Council (UCC) to satisfy each of the six Foundational Learning Outcomes listed below. Some courses may have been approved to meet more than one of the Foundational Learning Outcomes, so fewer than six courses can be used to fulfill this requirement. There is no minimum number of credit hours needed to satisfy this component of the College of Engineering General Education Program⁵. The pertinent Foundational Learning Outcomes are defined below.

Written Communication *The clear expression of ideas in writing; includes grammar, organization, and structure. Varying levels and types of writing skills are required for different jobs. The ability to convey ideas concisely and coherently is important.*

Oral Communication *The activity of conveying meaningful information verbally; communication by word of mouth typically relies on words, visual aids and non-verbal elements to support the conveyance of the meaning. Oral communication is designed to increase knowledge, foster understanding, or to promote change in the listener's attitudes, values, beliefs, or behaviors.*

Information Literacy *The ability to recognize the extent and nature of information needs, then to locate, evaluate, and effectively use the needed information. It involves designing, evaluating and implementing a strategy to answer questions or achieve a desired goal.*

Human Cultures: Humanities *The ability to recognize one's own cultural traditions and to understand and appreciate other cultural traditions and languages. This includes content in classics, history, languages, the law, literature, the performing arts, philosophy (including ethics), religion, and visual arts.*

Human Cultures: Behavior/Social Science *The ability to recognize one's own cultural traditions and to understand and appreciate other cultural traditions and languages. This includes content in anthropology, psychology, cognitive science, organization theory, sociology, economics, history, counseling, and political science.*

Science, Technology, and Society *The ability to understand and reflect upon the complex issues raised by technological and scientific changes and its effects on society and the global world by making sense of, evaluating, and responding to present and future changes that shape individuals' work, public, and personal lives.*

Programmatic Requirements

The additional credit hours needed to reach the minimum requirement of 24 credit hours (with the condition that at least 6 credit hours must come from courses at the 30000-level or above, or from courses with a required prerequisite in the same department) are under the control of the individual engineering programs' curriculum committees so that they can be tailored to the needs of their specific programs. The guiding principle should be to add depth and non-technical breadth to the various engineering curricula in a manner consistent with the goals of this College of Engineering General Education Program. Further, this component provides an opportunity to build on some of Purdue's Embedded Outcomes², such as intercultural knowledge, ethical reasoning, and global citizenship.

⁴ <http://www.purdue.edu/senate/curriculum>

⁵ Typically, 15-18 credits of coursework are needed to satisfy the Foundational Learning Outcomes component of the College of Engineering General Education Program.

EFD 55-98,
Adopted by Engineering Faculty Vote, April 26, 2001
For students matriculating at Purdue Fall 2001 to Spring 2013

Humanities and social sciences courses encompass the breadth of human experience and culture, both past and present, including individual behavior, social and political structures, aesthetic values, modes and dynamics of communication, philosophical and ethical thought, and cognitive processes. Such courses are an integral part of all engineering curricula which complements technical and professional content by enabling engineering students to appreciate the world in which they live and work, and to contribute as both educated members of society and aware, ethical professionals. Humanities and social sciences courses also provide a framework for rational inquiry, critical evaluation, judgment and decisions when dealing with issues that are non-quantifiable, ambiguous, or controversial. Of equal importance, they offer opportunities for engineering students to develop interests and insights that guide, enrich and expand their perceptions of the world they live in.

To these ends, all B.S. students in the Schools of Engineering are required to complete a general education program of 18 credit hours in approved humanities and social sciences electives. Students are strongly encouraged to develop a coherent general education plan, and distribute their general education credits throughout their academic program. The collection of courses used to fulfill this requirement must meet all of the following conditions:

4. Courses must be drawn from those offered by the departments of Agricultural Economics, Audiology and Speech Sciences, Child Development and Family Studies, Communication, Economics, English, Foreign Languages and Literatures, History, Interdisciplinary Studies, Philosophy, Political Sciences, Psychological Sciences, Sociology and Anthropology, Visual and Performing Arts. Any course offered by these departments is allowable, provided that it is open to students in the offering department and is not focused primarily on professional training, natural science or mathematics.
5. In order to ensure sufficient exposure to topics dealing with global, societal and contemporary issues, at least 9 credit hours must be drawn from courses offered by the departments of Agricultural Economics, Economics, Communication, Foreign Languages and Literatures, History, Interdisciplinary Studies, Philosophy, Political Sciences, Psychological Sciences, or Sociology and Anthropology.
6. At least 6 of the credit hours must be taken in the same department and a maximum of 12 credit hours may be taken in any one department.
7. At least 6 of the credit hours must come from courses at the 300-level or above, or from courses with a required prerequisite in the same department.
8. If a foreign language course is used to satisfy part of the requirements, the student must take at least 6 credit hours of the same language. Credit is not allowed for language courses in the students native tongue(s), although literature, culture, drama and related courses are allowed.
9. Credit by examination or granted credit (e.g., advanced placement credit), conditioned solely at the discretion of the awarding department, can be used to satisfy any part of the requirement.

10. No course may be counted more than once toward the requirement, even if the offering department allows it to be repeated for credit.
11. Individual schools may impose requirements in addition to those previously stated, but may not require a specific course as part of the general education program.

General Education Courses

NOTE: I rely completely on the above Gen Ed rules to decide what courses will be ok. However, if you are planning to CODO to another Engineering School, you may wish to stick to a list which is, by design, "Approved for all Schools of Engineering"

This list is posted on the ENE web site at

<https://engineering.purdue.edu/ENE/InfoFor/CurrentStudents/genedcourses>