

# BE Planning Guide

DARTMOUTH CLASS OF 2009 AND 2010 AND DUAL-DEGREE CANDIDATES

(This is for planning purposes only – You will need to go to [Banner Student](#) to complete the Bachelor of Engineering program plan)

See below for BE REQUIREMENTS

	Term & Year (e.g., 06F)	Degree program		Math & Natural Science	Engineering Science & Design	Significant Design Content
		A.B.	B.E.			
<b>A. MATHEMATICS &amp; NATURAL SCIENCE</b>						
1. Math 3		√		1	0	–
2. Math 8		√		1	0	–
3. Math 13		√		1	0	–
4. Phys 13		√		1	0	–
5. Phys 14		√		1	0	–
6. Chem 5		√		1	0	–
7.						
8.						
9. Engs 91, 92, or 103				1	0	–
m/d						
m/d						
<b>B. ENGINEERING SCIENCES</b>						
1. Engs 20 (or CoSc 5)		√			0.5	–
2. Engs 190				0	1	√
3. Engs 290			√	0	1	√
4.	Three course concentration, one with significant design content.		√			
5.			√			
6.			√			
7.						
8.						
9.						
10.						
11.						
12.						
13.						
14.						
15.						
16.						
<b>C. TOTALS</b>						
Minimum required			B.E.	Math /Sci	Engineering	Design
Totals for this program			9	9	13.5	6

## 1. ADMISSIONS

Students should apply for admission and financial aid (if needed) to the Thayer School Academic & Student Affairs Office (Room M103). For students enrolled in the engineering sciences major or dual-degree program, completion of the A.B. major with a GPA of 2.0 or higher in the major guarantees admission to the Thayer School B.E. program. However, one must still file a Student Information Form, a Program Form, and a Financial Aid application (if needed) with the Academic & Student Affairs Office.

## 2. UNDERGRADUATE PROGRAM

Indicate in the appropriate space if you completed the Dartmouth engineering sciences major, modified major (and give the modifying subject), or dual degree program (and give your college and major).

## 3. DEGREE REQUIREMENTS: OVERALL

Thayer School requires the B.E. program to include at least nine courses beyond the major requirements for the A.B. degree. The courses listed on this form in satisfaction of degree requirements must also meet the following ABET requirements:

- One year of mathematics and natural science, which is 9 courses (or course equivalents).
- 1.5 years of engineering science or engineering design, which is 13.5 courses (or course equivalents).
- A significant component of engineering design, which has been set to be six courses with significant design content
- One-half year of humanities and social sciences, which is covered by the Dartmouth A.B. program.

## 4. MATHEMATICS AND NATURAL SCIENCE (SECTION A)

The following courses in mathematics and natural science are required: Three courses in calculus, through multivariable (MATH 3, 8, 13); two courses in physics (PHYS 13, 14); one course in general chemistry (CHEM 5). One of the applied mathematics courses ENGS 91, 92, or 103. Two more non-introductory courses, from the following list: ASTR 15 and above; BIOL 11 and above; CHEM 6 or 10, 41 and above; COSC 19, 25, 39; EARS 26 and above; ENVS 20, 79, and 89; MATH 16 and above; PHYS 17, 19 or 23, 24, 41 and above; ENGS 91, 92, 100, 103, 104, 105, 106. Modified majors (with science) and dual degree students (science majors): use the lines marked "m/d" for modifying science courses or courses from your undergraduate science major, respectively.

## 5. ENGINEERING SCIENCES (SECTION B)

The following engineering sciences courses are required: One course in computer science (ENGS 20 or COSC 5), counted as 0.5 course credit. The two-course capstone design experience (ENGS 190/290). The remaining eleven courses may be chosen as follows, subject to requirements of the engineering sciences major or dual-degree program.

- ENGS or ENGG courses numbered 21-88, 110-175. Only one of ENGS 86 or 88, and one term of ENGS 87, may be included. ENGS 75 & 175 carry engineering design credit but not engineering sciences credit. Engineering management (ENGM) courses are excluded from the B.E. program.
- The applied math courses ENGS 91, 92, 100, 103, 104, 105, 106 may be counted as engineering sciences or as mathematics.
- Outside Thayer School: COSC 18, 23-78 (except 32, 42) and 104-188 (except 110); EARS 66

Three of the nine courses in the B.E. program proper must form a coherent concentration. One of these three must carry design credit. Six courses must be from the following list of courses having significant design content: ENGS/ENGG 21, 26, 31, 32, 33, 36, 37, 44, 51, 61, 62, 63, 65, 71, 73, 75, 76, 124, 125, 126, 127, 128, 129, 130, 135, 145, 146, 157, 158, 165, 171, 175, 190, 240, 290, and COSC 23. ENGS 86-88 may be approved for design credit by the B.E. program committee, based on evaluation of the work done.

## 6. FILLING IN THE COLUMNS, TOTALS

- Fill in the term and year when each course was taken (e.g., 06F for fall term, 2006).
- Place a check in the A.B. column for each course taken in satisfaction of undergraduate major requirements. If Engs 190 was taken for the Dartmouth culminating experience requirement, count it in the A.B. column; otherwise, count it in the B.E. column.
- Place a check in the B.E. column for each of the nine courses taken for the B.E. beyond the major requirements for the A.B. Engs 290 is always counted in the B.E. column.
- Place a 1 in the appropriate column to indicate credit for mathematics and natural science or engineering sciences.
- Place a check in the design column for each course that has significant design content.
- At the bottom of the form, add up the credits in the B.E., math/natural science, engineering sciences, and design columns and make sure that the totals are at least 9, 9, 13.5, and 6, respectively.

## 7. APPROVAL

This form should be filled out, signed by your advisor, and returned to the Thayer School Academic & Student Affairs Office, along with your Student Information and Financial Aid forms, at least three terms prior to the expected completion of your B.E. program. The program must be approved by the B.E. Program Committee. Revised program forms should be submitted to the Thayer School Registrar and must be approved by your advisor and the B.E. Program Committee.

## 8. GRADE POINT AVERAGE FOR GRADUATION

For the award of the B.E. degree, the nine courses in the B.E. program must be completed with a GPA of 2.33 or higher.