

## Sample Dual-Degree Programs

The following are only *examples* of what can be done in the dual-degree program. The first year programs shown contain the usual six engineering science (ENGS) courses.

The following courses are required in all programs: ENGS 21, 22, 23; two from ENGS 24-27; two from ENGS 31-37; one of ENGS 91-93; and ENGS 89-90. The remaining courses are elected to fulfill total course count and tailor the program to the student's professional interests. A junior-level physics course in electromagnetism from the home institution may be allowed in place of the core course ENGS 23, permitting another ENGS elective to be taken in its place. Equivalence for the applied math course (ENGS 91, 92, or 93) is also possible at some colleges.

For advice on particular options, contact the Thayer School of Engineering at 603-646-3677, or via [ugengg@dartmouth.edu](mailto:ugengg@dartmouth.edu).

### Concentration in Electrical Engineering

The summer start is preferred because the courses ENGS 22 and ENGS 31 are prerequisite to other EE courses.

EE-1a	First year (exchange at Dartmouth) *varying fall or spring leave term			
	Summer	Fall *	Winter	Spring *
	ENGS 22	ENGS 23	ENGS 21 or 23	ENGS 21
	ENGS 31	ENGS 26 or 27	ENGS 32	ENGS 24 or 25
	Elective	Elective	Elective	Elective

EE-1b	First year (exchange at Dartmouth)			
	Summer	Fall	Winter	Spring
		ENGS 21	ENGS 23	ENGS 24
	Leave term	ENGS 22	ENGS 32	ENGS 31
		Elective	Elective	Elective
Second year (Bachelor of Engineering Program)				
	Summer	Fall	Winter	Spring
		ENGS 26, 61, or 125	ENGS 24, 60 or 68	3 from ENGS 64, 110,
	Leave term	ENGS 92	ENGS 62 or 120	126, 128, 129, 145
		ENGS 89	ENGS 90	

### Concentration in Computer Engineering

Complete introductory courses in programming and data structures (trees, lists, stacks, queues) in C++ or Java at the home institution prior to coming to Dartmouth. It is assumed the student will take courses in discrete math, computer architecture, and algorithms at the home institution. The summer start is preferred because the courses ENGS 22 and ENGS 31 are prerequisite to other EE courses.

COMP-1	First year (exchange at Dartmouth)			
	Summer	Fall	Winter	Spring
	ENGS 22	ENGS 21	ENGS 23	
	ENGS 31	ENGS 27	ENGS 32, 62 or COSC 50	Leave term
	Elective	Elective	Elective	

**COMP-2** First year (exchange at Dartmouth)

Summer	Fall	Winter	Spring
	ENGS 22	ENGS 21 or 23	ENGS 21 or 23
Leave term	ENGS 27	ENGS 32 or COSC 50	ENGS 31
	Elective	Elective	Elective

  

Second year (Bachelor of Engineering program)			
Summer	Fall	Winter	Spring
	ENGS 67 or 91	ENGS 32, 62 or 65	ENGS 112
Leave term	ENGS 26	COSC 74 or 81	COSC 50 or 60
	ENGS 89	ENGS 90	ENGS 93

**Concentration in Mechanical Engineering (Mechanics)****ME-1a** First year (exchange at Dartmouth) \*summer-winter-spring or fall-winter-spring

Summer *	Fall *	Winter	Spring
ENGS 22	ENGS 22	ENGS 21	ENGS 23 or 71
ENGS 33	ENGS 33	ENGS 24	ENGS 25
Elective	Elective	Elective	Elective

**ME-1b** First year (exchange at Dartmouth)

Summer	Fall	Winter	Spring
ENGS 22	ENGS 21		ENGS 25
ENGS 33	ENGS 23 or 26	Leave term	ENGS 24
Elective	Elective		Elective

  

Second year (Bachelor of Engineering program)			
Summer	Fall	Winter	Spring
	ENGS 76	ENGS 142	ENGS 93
Leave term	ENGS 26, 72 or 130	ENGS 32 or 34	ENGS 71, 145 or 147
	ENGS 89	ENGS 90	ENGS 146

**Concentration in Environmental Engineering**

Endeavor to take environmental science courses at the home institution. Examples include: ecology, "outdoor" chemistry (e.g., aquatic or geochemistry), and hydrogeology.

**ENV-1a** First year (exchange at Dartmouth)

Summer	Fall	Winter	Spring
ENGS 22	ENGS 21 or 23	ENGS 21 or 34	
ENGS 25	ENGS 37	ENGS 24	Leave term
Elective	Elective	Elective	

**ENV-1b** First year (exchange at Dartmouth)

Summer	Fall	Winter	Spring
	ENGS 22	ENGS 23	ENGS 21
Leave term	ENGS 37	ENGS 24	ENGS 25
	Elective	Elective	Elective

  

Second year (Bachelor of Engineering program)			
Summer	Fall	Winter	Spring
	ENGS 36 or 91	ENGS 34 or 43	ENGS 42 or 44
Leave term	ENGS 174	ENGS 171 or 173	ENGS 51 or 175
	ENGS 89	ENGS 90	ENGS 93

**Concentration in Chemical and Biochemical Engineering**

Complete the equivalent of Dartmouth's CHEM 6 at the home institution before coming to Dartmouth. Plan to take organic and physical chemistry, cell biology or genetics at the home institution before graduation.

**CHE-1a** First year (exchange at Dartmouth)

Summer	Fall	Winter	Spring
ENGS 22	ENGS 35 or 36	ENGS 21	
ENGS 25	ENGS 23	ENGS 24 or 34	Leave term
Elective	Elective	Elective	

**CHE-1b** First year (exchange at Dartmouth)

Summer	Fall	Winter	Spring
	ENGS 22	ENGS 23	ENGS 21
Leave term	ENGS 35	ENGS 24	ENGS 25
	Elective	Elective	Elective

  

Second year (Bachelor of Engineering program)			
Summer	Fall	Winter	Spring
	ENGS 26	ENGS 58 or 157	ENGS 158 or 162
Leave term	ENGS 35 or 36	ENGS 34 or 161	ENGS 150 or 155
	ENGS 89	ENGS 90	ENGS 93

**Concentration in Chemical Engineering (Fluid and thermal sciences)****CHE-2a** First year (exchange at Dartmouth)

Summer	Fall	Winter	Spring
	ENGS 22	ENGS 23	ENGS 21
Leave term	ENGS 33	ENGS 24	ENGS 25
	Elective	Elective	Elective

**CHE-2b** First year (exchange at Dartmouth)

Summer	Fall	Winter	Spring
ENGS 22	ENGS 23	ENGS 21	
ENGS 25	ENGS 36	ENGS 34	Leave term
Elective	Elective	Elective	

## Second year (Bachelor of Engineering program)

Summer	Fall	Winter	Spring
	ENGS 26 or 36	ENGS 34 or 151	ENGS 24 or 150
Leave term	ENGS 91	ENGS 105 or 173	ENGS 155
	ENGS 89	ENGS 90	ENGS 156

**Concentration in Materials Science (Mechanics)****MAT-1** First year (exchange at Dartmouth)

Summer	Fall	Winter	Spring
	ENGS 22	ENGS 21	ENGS 23 or 71
Leave term	ENGS 33	ENGS 24	ENGS 25
	Elective	Elective	Elective

## Second year (Bachelor of Engineering program)

Summer	Fall	Winter	Spring
	ENGS 91 or 131	ENGS 132 or 137	ENGS 71, 155 or 156
Leave term	ENGS 130	ENGS 32, 34 or 142	ENGS 73
	ENGS 89	ENGS 90	ENGS 93

**Concentration in Materials Science (Solid State)****MAT-2a** First year (exchange at Dartmouth)

Summer	Fall	Winter	Spring
ENGS 22	ENGS 21 or 23	ENGS 21 or 32	
ENGS 25	ENGS 33	ENGS 24	Leave term
Elective	Elective	Elective	

**MAT-2b** First year (exchange at Dartmouth)

Summer	Fall	Winter	Spring
	ENGS 22	ENGS 23 or 32	ENGS 21 or 23
Leave term	ENGS 33	ENGS 24	ENGS 25
	Elective	Elective	Elective

Second year (Bachelor of Engineering program)

Summer	Fall	Winter	Spring
	ENGS 130	ENGS 60 or 132	ENGS 93
Leave term	ENGS 131	ENGS 134 or 135	ENGS 73
	ENGS 89	ENGS 90	ENGS 155

**Concentration in Biomedical Engineering (Mechanics, Biomaterials, Devices)**

BME-1 First year (exchange at Dartmouth)

Summer	Fall	Winter	Spring
	ENGS 22	ENGS 21 or 23	ENGS 23, 25 or 56
Leave term	ENGS 33	ENGS 32	ENGS 24
	Elective	Elective	Elective

Second year (Bachelor of Engineering program)

Summer	Fall	Winter	Spring
	ENGS 23, 26 or 91	2 of ENGS 23, 105,	ENGS 56 or 57
Leave term	ENGS 72 or 130	142	ENGS 93 or 166
	ENGS 89	ENGS 90	ENGS 165

**Concentration in Biomedical Engineering (Electronics, Imaging, Signals)**

BME-2 First year (exchange at Dartmouth) \*varying fall or spring leave term

Summer	Fall *	Winter	Spring *
ENGS 22	ENGS 23	ENGS 21 or 23	ENGS 21 or 61
ENGS 31	ENGS 26 or 27	ENGS 32	ENGS 24, 25 or 56
Elective	Elective	Elective	Elective

Second year (Bachelor of Engineering program)

Summer	Fall	Winter	Spring
	ENGS 92	2 of ENGS 60, 62, 120,	3 OF ENGS 61, 64, 110,
Leave term	ENGS 26, 167 or 168	170	111, 123, 129, 145, 166
	ENGS 89	ENGS 90	