



THAYER SCHOOL OF  
ENGINEERING  
AT DARTMOUTH

# Dual-Degree Program in Engineering at Dartmouth

2014-2015 Academic Year Webinar Presentation

Holly Wilkinson, Asst. Dean, Academic and Student Affairs

[Holly.Wilkinson@Dartmouth.edu](mailto:Holly.Wilkinson@Dartmouth.edu)

Jenna Wheeler, Program Assistant

[Jenna.D.Wheeler@Dartmouth.edu](mailto:Jenna.D.Wheeler@Dartmouth.edu)

Professor Eric Hansen, Faculty Director

[Eric.Hansen@Dartmouth.edu](mailto:Eric.Hansen@Dartmouth.edu)

[engineering.dartmouth.edu](http://engineering.dartmouth.edu)



Holly Wilkinson



Jenna Wheeler



Eric Hansen

# Dartmouth College

*“...a superb undergraduate residential college with the intellectual character of a university, featuring thriving research and first-rate graduate and professional programs”*

- **Founded:** 1769
- **Affiliation:** Ivy League
- **Students:** Approximately 4,200 undergraduate, 2,100 graduate
- **Divisions:** Undergraduate college with more than 40 departments and programs; graduate schools of arts and sciences, medicine, engineering, and business
- **Faculty:** 589 tenured/tenure track, 1045 total



# Thayer School of Engineering

*"To prepare the most capable and faithful for the most responsible positions and the most difficult service." — Sylvanus Thayer*

- **Founded:** 1867 by Sylvanus Thayer — one of the country's oldest professional schools of engineering
- **Philosophy:** engineering in the context of a liberal arts education provides the single best preparation for addressing the world's problems
- **Approach:** Small and agile, one department with all engineering disciplines. Fosters innovation and an intense spirit of camaraderie and collaboration rather than competition
- **Research areas:** Medicine, Energy and Complex Systems
- **Faculty:** 29 tenured/tenure track, 50 total
- **Degrees:** BA, BE, MS, PhD, and MEM (Master of Engineering Management)
  - **BA:** ES major is part of the Dartmouth BA program. 193 enrolled for 2013/14.
  - **BE:** Graduate students take a range of courses as they develop advanced professional skills. 59 enrolled for 2013/14. Average starting salary of 2014 grads was \$69,907

## Why the Dual-Degree?

### Typical Students Are:

- Natural Science, Math or CS majors
- Interested in either a career in engineering or preparation for grad school in engineering
- Open to spending junior or senior year on another campus, and a 5<sup>th</sup> year at Dartmouth
- Seeking a hands-on engineering program with small class sizes and strong student-professor interaction





# Why Dartmouth College?

## Food

- 10 campus dining facilities including vegetarian, vegan, kosher and halal options
- 20+ restaurants and other eateries in Hanover

## Performing Arts

- Hopkins Center for the Arts attracts world-class performers
- Students can participate in theater, dance, and musical performance

## Athletics

- 34 intercollegiate varsity teams, most NCAA Division 1
- 32 club teams and 24 intramural teams

**Greek system** with 3 co-ed, 17 male, and 11 female houses

## Outdoors

- Dartmouth outing club is the oldest and largest collegiate outing club in the country
- Numerous trips and educational opportunities including “first year trips” for which you would be eligible

**Over 350 Student Organizations**







## Why Thayer School of Engineering?



## Timing

**Configuration is determined by you and home school preference**

“2-1-1-1”

- 2 - Freshman and sophomore years: home college
- 1 - Junior year: Dartmouth
- 1 - Senior year: home college
- 1 - Bachelor of Engineering year: Dartmouth

“3-2”

- 3 - Freshman, sophomore, and junior years: home college
- 2 - Senior and Bachelor of Engineering years: Dartmouth

**Junior or senior year is three “terms” in Dartmouth’s year-round quarter system**

- Can begin in summer or fall
- Any three-term combo is permitted summer-spring
- Preliminary plan will be requested on your application

## Program Outline

**Junior or Senior year at Dartmouth**

- Engineering + humanities/ social sciences
- BA is earned from home institution

**Plus a 5<sup>th</sup> year at Dartmouth**

- BE is earned from Thayer School of Engineering at Dartmouth





# Minimum Preparation for the First Year

## Calculus

Through vector-valued functions (typically 3)

## Physics

At least two courses

## Chemistry

At least one course

## Computer science/programming

At least an intro course

Advanced Placement or International Baccalaureate credits are honored if awarded by your college.

Additional courses beyond the minimum are recommended and considered in evaluating your application.

# First Year Requirements

## Engineering (6)

- Must: ENGS 21, 22 and 23
- 1-2 core: ENGS 24, 25, 26, 27
- 1-2 gateway: ENGS 31-37+

## Humanities/Social Sciences (3)

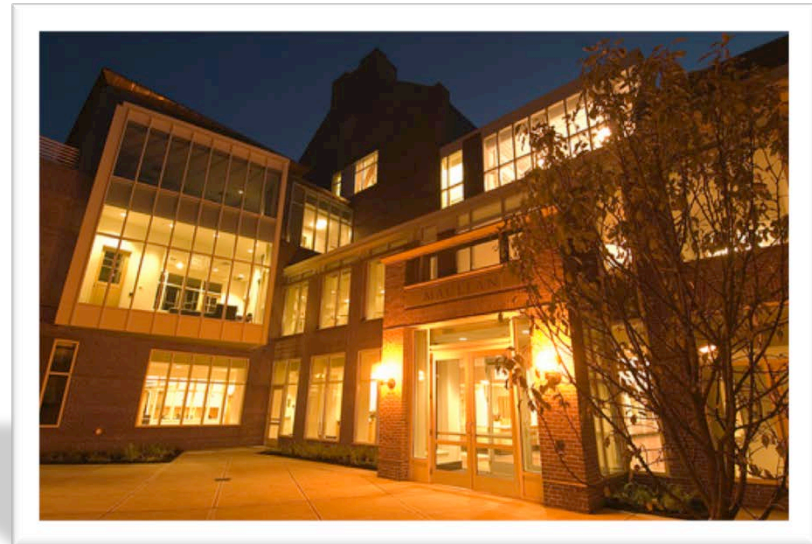
- Broadens your liberal arts education
- Not recommended to use these electives for sciences

Mandatory	Core (1-2)	Gateway (1-2)
Intro to Engg	Science of Materials	Digital Electronics
Systems	Thermodynamics	Electronics
Distributed Systems & Fields	Control Theory	Solid Mechanics
	Discrete & Probablistic Systems	Fluid Dynamics
		Biotechnology & Biochemical Engineering
		Chemical Engineering
		Introduction to Environmental Engineering

## Second (BE) Year Requirements

### 9 courses

- ENGS 89 & 90 (BE design project)
- One of ENGS 91, 92, 93 (applied math)
- Six more courses to fulfill breadth and depth requirements
- Details: <http://engineering.dartmouth.edu/undergraduate/be/requirements.html>



## Financial Aid

**First year:** Dartmouth aid unavailable

- Many schools provide aid for their students in dual-degree programs
- Ask your school's advisor about availability of financial aid

**BE Year:** Aid Available from Thayer School of Engineering

- Need-based up to maximum of full tuition
- No aid is available for room and board, books, etc.
- Loans may be available, depending on financial status and citizenship

## Housing & Food

**First year:**

On-campus in dorms  
Meal plan is mandatory

**BE Year:**

Off-campus on your own  
Meal Plan not available





## How to Apply

- ① **Obtain approval from your college**
  - Understand program and aid available
  - Review course creditability
- ② **Obtain an application form**
  - from the dual-degree or twelve-college exchange advisor at your college OR
  - download the PDF file  
<http://engineering.dartmouth.edu/admissions/undergraduate/dual>
- ③ **Obtain recommendation letter from dual-degree advisor \*or\* another science professor who knows you well.**
- ④ **Return the completed application by mail**
  - As soon as your fall semester grades are available
  - Request official transcript to be sent to us by the deadline
  - No later than **February 1<sup>st</sup> of your sophomore year** (2-1-1-1) or **junior year** (3-2)

Dual-Degree Program  
Attn: Jenna Wheeler  
Thayer School of Engineering, Dartmouth  
14 Engineering Drive  
Hanover, NH 03755-8000

## Acceptance

- Notification by mid-March
- In some cases midterm grades for spring semester are requested, and decision delayed
- Generally more applications are received than places available – and there is a wait list
- Commit by early April for normal admits, later date for students admitted off waiting list
- Admission to the BE year is automatic provided your grades in the first year are satisfactory. You will receive forms to fill out for program planning and financial aid.



- For additional questions contact Jenna Wheeler, Program Manager at **603-646-3677** or [Jenna.D.Wheeler@Dartmouth.edu](mailto:Jenna.D.Wheeler@Dartmouth.edu)

Thayer School of Engineering at Dartmouth  
14 Engineering Drive  
Hanover, NH 03755