

Sample Academic Pathways for Course 16 Students Entering the Major in the Fall Term of the Sophomore Year

Freshmen intending to major in Course 16 are urged to carefully plan their spring course load to ensure they complete the prerequisites for Unified Engineering 16.001-002. The sample course load (57 units) in Spring of freshman year below may not be suitable for all students.

The following roadmaps show the paths typically taken by students who enter Course 16 in the Fall term of the sophomore year and later enroll in the 16.82x or 16.83x capstone sequences. Students who wish to complete an option in aerospace information technology will follow the same pathways but they must take at least three (36 units) of the four (48 units) required professional subjects in subjects other than 16.100, 16.20, 16.50, or 16.90.

Students must discuss their individual course plan with their academic advisor and consult the current *MIT Course Catalogue* (<http://student.mit.edu/catalog/index.cgi>) for up-to-date information on degree requirements, course prerequisites, and the terms in which courses are offered. Also check the *Course 16 Calendar for Experimental and Capstone Subjects*.

Program 16 - Aerospace Engineering

Subject & Units	Institute Requirement	Units Beyond GIRS
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1. Freshman Year

Fall Term

3.091-Intro to Solid-State Chemistry (12)	CHEM	
8.01-Physics I (12)	PHYS	
18.01-Calculus I (12)	CALC	
HASS (12)	HASS	

Term Units = 48

Spring Term

7.012-Introductory Biology (12)	BIO	
8.02-Physics II (12)	PHYS	
18.02-Calculus II (12)	CALC	
18.03-Differential Equations (12)	REST	
HASS (9), CI-H	HASS	

Term Units = 57

2. Sophomore Year

Fall Term

16.001-Unified Engineering I (12), REST		
16.002-Unified Engineering II (12)		12
6.0001 Intro to Computer Programming in Python (6)		6
6.0002 Intro to Computational Thinking & Data Sc. (6)		6
HASS (12), CI-H	HASS	

Term Units = 48

<u>Spring Term</u>		
16.003-Unified Engineering III (12)		12
16.004-Unified Engineering IV (12)		12
*16.09 Statistics & Probability (12)		12
HASS-A (12)	HASS-D	
Term Units = 48		
*Students have the option of taking 6.041A-6.041B Intro to Probability I-II.		
3. Junior Year		
<u>Fall Term</u>		
16.06-Principles of Automatic Control (12)		12
16.07-Dynamics (12)		12
16.100 Aerodynamics (12)		12
HASS (12)	HASS	
Term Units = 48		
<u>Independent Activities Period</u>		
A six-unit elective, i.e. UROP-for-credit		6
<u>Spring Term</u>		
16.405J Robotics: Sc & Sys I (12)		12
16.50 Intro to Propulsion Sys (12)		12
Elective (6)		6
HASS-H (12)	HASS-D	
Term Units = 42		
4. Senior Year		
<u>Fall Term</u>		
16.82 Flight Vehicle Engineering (12), CI-M		12
Elective (12)		12
Elective (12)		12
HASS-S (12)	HASS-D	
Term Units = 48		
<u>Independent Activities Period</u>		
A six-unit elective, i.e. UROP-for-credit		6
<u>Spring Term</u>		
16.821 Flight Vehicle Development (18), CI-M	LAB	6
16.90 Computational Methods in Aerospace Engineering (12)		12
Elective (6)		6
HASS (12)	HASS	
Term Units = 48		
TOTAL UNITS BEYOND GIRS		198

Notes:

1. The two Institute REST requirements (24 units) can be satisfied from among 6.0001-6.0002, 18.03 or 18.034, and 16.001. The Institute Lab requirement (12 units) for students choosing these pathways is fulfilled through 16.821 or 16.831, each of which carries 18 units. Units from departmental subjects that fulfill the REST and Lab requirements do not count in units beyond GIRS. (Six of the 18 units in 16.821 or 16.831 do count in units beyond GIRS.) Students must fill the 36-unit gap in their departmental program by taking additional electives.
2. Students take a minimum of four professional subjects (48 units) in three different areas. As mentioned earlier, students interested in doing the option in aerospace information technology also take 48 units, 36 of which must come from subjects other than 16.100, 16.20, 16.50, 16.90.
3. Students interested in taking capstone 16.82 or 16.83 must complete a minimum of two professional area subjects before enrolling in either capstone.