

MATH COURSES TAKEN BY
BACCALAUREATE GRADUATES
COLLEGE OF ENGINEERING
UNIVERSITY OF HAWAI'I AT MĀNOA
ACADEMIC YEARS 2006-07 TO 2008-09

MATH COURSES TAKEN BY COLLEGE OF ENGINEERING BACCALAUREATE GRADUATES GRADUATES IN ACADEMIC YEARS 2006-07 TO 2008-09

Research objective was to examine the math course taking patterns of College of Engineering undergraduate degree recipients. Data for degree recipients was extracted from ODS IRO Degree for Academic Years 2006-07 to 2008-09. (Academic Year begins with the fall semester and includes the following spring and summer semesters.)

Data on courses taken were extracted for the College of Engineering baccalaureate graduates from ODS MST_Student_Course. This table provides course history for the students, and so allows us to answer the question when the first math course was taken. Data included transfer courses from non-UH institutions with course number and credits earned; transfer courses with credit by examination were excluded.

Highlights

- There were 519 graduates from the College of Engineering in the period described; of these, 402 were at the Baccalaureate level. Baccalaureate graduates in the three majors offered were distributed as follows: Civil Engineering 37.6%; Electrical Engineering 36.8%; Mechanical Engineering 25.6%.
- Of the 402 baccalaureate graduates, 103 graduated in Academic Year 2006-07 (25.6%), 144 in AY 2007-08 (35.8%) and 155 in AY 2008-09 (38.6%).
- There were a total of 2,885 math courses taken by these graduates. Of these courses, the vast majority (59.4%) were in the 200-299 level range. Relatively few of the math courses taken were at the 100 level or below (1.9%).
- The lowest level initial course taken was a remedial math course at course number 20B. The highest level initial math course taken was 307. The median value course number was 241. (Note: the course database may not be comprehensive for historical data, especially for non-UH institutions.)
- The vast majority of math courses were taken after Academic Year 1999-2000. However, math courses in the database go back as far as Academic Year 1980-81.
- The highest math course successfully completed showed a range from Math 232 to Math 499. However, the terminal math course for most students was at the 300 level (302 & 307). Note that successful completion was defined in this study as a grade of C- or higher (including CR).

GRADUATES BY DEGREE TYPE - NUMBER
 COLLEGE OF ENGINEERING
 UNIVERSITY OF HAWAI'I AT MĀNOA
 ACADEMIC YEARS 2006-07 TO 2008-09

	Total	BS	MS	PHD
Major Field of Study	519	402	96	21
Civil Engineering	200	151	44	5
Electrical Engineering	190	148	32	10
Mechanical Engineering	129	103	20	6
Academic Year	519	402	96	21
2006-07	132	103	23	6
2007-08	190	144	37	9
2008-09	197	155	36	6

GRADUATES BY DEGREE TYPE - PERCENTAGE
 COLLEGE OF ENGINEERING
 UNIVERSITY OF HAWAI'I AT MĀNOA
 ACADEMIC YEARS 2006-07 TO 2008-09

	Total	BS	MS	PHD
Major Field of Study	100.0%	100.0%	100.0%	100.0%
Civil Engineering	38.5%	37.6%	45.8%	23.8%
Electrical Engineering	36.6%	36.8%	33.3%	47.6%
Mechanical Engineering	24.9%	25.6%	20.8%	28.6%
Academic Year	100.0%	100.0%	100.0%	100.0%
2006-07	25.4%	25.6%	24.0%	28.6%
2007-08	36.6%	35.8%	38.5%	42.9%
2008-09	38.0%	38.6%	37.5%	28.6%

Note: Academic Year includes Fall, Spring and Summer semesters.

Source: IRO Degree, EOS.

NUMBER OF MATH COURSES TAKEN BY COURSE NUMBER RANGE
 COLLEGE OF ENGINEERING BACCALAUREATE GRADUATES
 UNIVERSITY OF HAWAI'I AT MĀNOA
 ACADEMIC YEARS 2006-07 TO 2008-09

	Total Courses	Course Number Range						
		20-27	50-55	100	101-199	200-299	300-399	400-499
Major Field of Study	2,885	40	4	12	291	1,958	493	87
Civil Engineering	1,026	11		5	91	742	168	9
Electrical Engineering	1,034	16	4	3	76	726	195	14
Mechanical Engineering	825	13		4	124	490	130	64
Academic Year	2,885	40	4	12	291	1,958	493	87
2006-07	715	6		3	58	501	128	19
2007-08	1,025	19		6	111	679	173	37
2008-09	1,145	15	4	3	122	778	192	31

PERCENTAGE OF MATH COURSES TAKEN BY COURSE NUMBER RANGE
 COLLEGE OF ENGINEERING BACCALAUREATE GRADUATES
 UNIVERSITY OF HAWAI'I AT MĀNOA
 ACADEMIC YEARS 2006-07 TO 2008-09

	Total Courses	Course Number Range						
		20-27	50-55	100	101-199	200-299	300-399	400-499
Major Field of Study	100.0%	1.4%	0.1%	0.4%	10.1%	67.9%	17.1%	3.0%
Civil Engineering	100.0%	1.1%		0.5%	8.9%	72.3%	16.4%	0.9%
Electrical Engineering	100.0%	1.5%	0.4%	0.3%	7.4%	70.2%	18.9%	1.4%
Mechanical Engineering	100.0%	1.6%		0.5%	15.0%	59.4%	15.8%	7.8%
Academic Year	100.0%	1.4%	0.1%	0.4%	10.1%	67.9%	17.1%	3.0%
2006-07	100.0%	0.8%		0.4%	8.1%	70.1%	17.9%	2.7%
2007-08	100.0%	1.9%		0.6%	10.8%	66.2%	16.9%	3.6%
2008-09	100.0%	1.3%	0.3%	0.3%	10.7%	67.9%	16.8%	2.7%

Note: Academic Year includes Fall, Spring and Summer semesters.

Source: IRO Degree, EOS.

FIRST MATH COURSE TAKEN
 COLLEGE OF ENGINEERING BS GRADUATES
 UNIVERSITY OF HAWAI'I AT MĀNOA
 ACADEMIC YEARS 2006-07 TO 2008-09

Course Number of First Course	Total Students	Major Engineering Field of Study		
		Civil	Electrical	Mechanical
None	2	2		
20B	1			1
24	5	1	3	1
25	4	1	3	
26	1			1
27	8	3	3	2
50T	1		1	
100	8	4	3	1
103	10	7	2	1
104	1	1		
104F	3	1	1	1
135	10	5	5	
140	73	30	20	23
190	4			4
203	1		1	
205	40	10	19	11
206	1		1	
206L	2		2	
215	5	3	1	1
241	129	54	43	32
241A	1		1	
242	32	11	14	7
242L	21	5	10	6
243	10	7	1	2
244	2			2
251A	19	5	8	6
252A	3	1	2	
253A	4		3	1
307	1		1	
Total	402	151	148	103

Source: MST_Student_Course; ODS.

ACADEMIC YEAR OF FIRST MATH COURSE TAKEN
 COLLEGE OF ENGINEERING BS GRADUATES
 UNIVERSITY OF HAWAI'I AT MĀNOA
 ACADEMIC YEARS 2006-07 TO 2008-09

Academic Year of First Course	Total Students	Major Engineering Field of Study		
		Civil	Electrical	Mechanical
None	2	2		
1980-1981	1		1	
1987-1988	1	1		
1993-1994	3	2	1	
1994-1995	2	1	1	
1995-1996	5	2	2	1
1996-1997	5	4	1	
1997-1998	4		3	1
1998-1999	7		4	3
1999-2000	10	4	4	2
2000-2001	23	8	11	4
2001-2002	44	22	9	13
2002-2003	97	31	39	27
2003-2004	108	45	33	30
2004-2005	68	21	29	18
2005-2006	22	8	10	4
Total	402	151	148	103

Source: MST_Student_Course; ODS.

HIGHEST MATH COURSE SUCCESSFULLY COMPLETED
COLLEGE OF ENGINEERING BS GRADUATES
UNIVERSITY OF HAWAI'I AT MĀNOA
ACADEMIC YEARS 2006-07 TO 2008-09

Course Number of Highest Course	Total Students	Major Engineering Field of Study		
		Civil	Electrical	Mechanical
None	3	2	1	
232	4	3	1	
241	1	1		
242L	3	1		2
243	7	5	1	1
244	29	21	4	4
302	168	96	29	43
307	116	10	93	13
311	13	4	7	2
321	3		3	
371	1	1		
373	2		2	
402	7	1	4	2
403	1		1	
407	37	5		32
408	1	1		
412	1			1
414	1		1	
442	2		1	1
443	1			1
499	1			1
Total	402	151	148	103

Note: Successful completion defined as final grade C- or higher.

Source: MST_Student_Course; ODS.