

Required Courses for Students Majoring in Mechanical Engineering (Design and Analysis) in the College of Engineering (applicable to students admitted in Fall 2008)

Academic Year Semester Course Titles	First Year		Second Year		Third Year		Fourth Year	
	Fall	Spring	Fall	Spring	Fall	Spring	Fall	Spring
Common Required Courses (30)	Chinese (3)	Chinese (3)	History (2)					
	Foreign Languages (3)	Foreign Languages (3)						
	<ul style="list-style-type: none"> ● 16 credit hours of General Education courses, of which one course must be from each of the following core areas: Humanities & Thought, Physical Science, Applied Science, and Social Thought & Phenomenon. The remaining courses may be General Education electives. ● One non-credit Physical Education course each semester of their first three academic years, two of which must be Freshman PE I and Freshman PE II. ● One non-credit Service Education course in the fall and spring semester of an academic year. 							
Required Courses of the College (14)	Calculus MA1003 (3)	Calculus MA1004 (3)				Engineering Ethics EG4002 (2)		
	Programming for Engineering EG1001 (3)	General Physics PH1022 (3)						
Required Courses of the Department (48)	Experiments of Manufacture Engineering I ME1041 (1)	Experiments of Manufacture Engineering II ME1042 (1)	Engineering Mathematics I ME2001 (3)	Engineering Mathematics II ME2002 (3)	ME4061 Automatic Control I (3)			
	Mechanical Drawing ME2037 (1)	Statics & Mechanics of Materials ME1006 (4)	Mechanisms ME2035 (3)	Electrical Circuits and Electronics ME2065 (3)	Automatic Control Laboratory I ME4059 (1)			
		Mechanical Drawing ME2038 (1)	Dynamics ME2013 (3)	Experiments of Electrical Circuits and Electronics ME2066 (1)	Measurement Laboratory ME3096 (1)			

		General Physics Laboratory PH1024 (1)	Materials Science ME2051 (3)	Precision Manufacturing Processes I ME2056 (3)	Precision Machine Design I ME3043 (3)			
			Thermodynamics I ME2073 (3)		Fluid Mechanics ME3081 (3)			
					Students must take one of the following during the junior or senior year: Electromagnetics ME3055 (3) Introductin to Modern Physics ME3053 (3)			
Required Courses of the Section (15+6)	General Chemistry EG1003 (3) (mandatory course offerings)	Programing Design ME1008 (3) (mandatory course offerings)		Thermodynamics II ME2072 (2)	Fluid Mechanics Laboratory ME3093 (1)	Precision Machine Design II ME3044 (3)		
				Materials Laboratory ME3095 (1)		Computer Aided Engineering ME3061 (3)		
						Applied Mechanics Laboratory ME3034 (1)		
						Heat Transfer ME3072 (3)		
						Thermal Engineering Laboratory ME3094 (1)		
Core Electives of the College (18)					Basic Engineering Optics I ME2003 (3) Special Topics on Mechanical ENgineering (ME3047) (3) Advanced Materials (ME3048) (3)	Mechatronics ME4076 (3) 應用熱傳 (ME4081) (3) Fluid Mechanics (ME4084) (3)		

					感測原理 (ME3056) (3)	生醫工程概論 (BE5004) (3)																				
					Special Topics on Mechanical II (ME3050) (3)	Mechanical Behavior of Materials (ME6059) (3)																				
					System Dynamics (ME3060) (3)	熱交換器 (ME6085) (3)																				
					中等材力 (ME4016) (3)	Mechanical Vibrations (ME7014) (3)																				
					Automatic Control II (ME4062) (3)	高等熱力學 (ER6009) (3)																				
					Numerical Methods (ME3086) (3)	Energy Engineering (ER6011) (3)																				
					Computer-aided Design and Manufacture (ME3063) (3)																					
Total Semester Credit Hours	14+3 (mandatory course offerings)	19+3 (mandatory course offerings)	15	13	12+3 (Physics)	13																				
Notes	<p>1. The numerical figures in parentheses refer to course credit hours.</p> <p>2. The calculation of semester hours include credit hours of the required and the mandatory courses only, and do not include credit hours earned from Core Electives of the Section, General Education courses or History (students are not required to pass the courses designated as “mandatory course offerings,” but credit hours for failed courses may not be counted toward the student’s earned credit hours).</p> <p>3. General Chemistry and Programming Design (each accounts for three credit hours) are classified as specialized electives of the Department and are required of all first-year students in this Department.</p> <p>4. The minimum number of earned credit hours required for graduation is 132. Students must also fulfill the following requirements:</p> <p>(1) Earn 107 credit hours of required courses (including Common Required Courses and Required Courses of the College, the Department and the Section);</p> <p>(2) Earn 24 credit hours of specialized electives (including courses offered by the Graduate Institute of Opto-mechatronics Engineering, the Graduate Institute of Energy Engineering, the Graduate Institute of Biomedical Engineering and the Graduate Institute of Materials Science and Engineering), a minimum of 18 credit hours of which must be from the Core Electives of the Section.</p> <p>5. Students are required to complete the prerequisites before taking the following required courses:</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 5%;"></th> <th style="width: 35%;">Required Courses</th> <th style="width: 60%;">Prerequisites</th> </tr> </thead> <tbody> <tr> <td>(1)</td> <td>Calculus (MA1004)</td> <td>Calculus (MA1003): 50 points or more</td> </tr> <tr> <td>(2)</td> <td>Engineering Mathematics I</td> <td>Calculus (MA1003 and MA1004): 50 points or more</td> </tr> <tr> <td>(3)</td> <td>Engineering Mathematics II</td> <td>Engineering Mathematics I: 50 points or more</td> </tr> <tr> <td>(4)</td> <td>Dynamics</td> <td>Statics & Mechanics of Materials: 60 points or more</td> </tr> <tr> <td>(5)</td> <td>Precision Machine Design I</td> <td>Statics & Mechanics of Materials: 60 points or more</td> </tr> </tbody> </table> <p>6. Where a required course is divided into two levels (e.g., Thermodynamics I & II), students must receiving a passing grade in the first level before proceeding to the second.</p> <p>7. Students must take Foreign Language courses and General Education courses in accordance with the University’s <i>Guidelines for the Selection of Common Required Courses</i>.</p> <p>8. Before being permitted to graduate, students must demonstrate their English proficiency by reaching a threshold score in one of the English proficiency tests recognized by the Language Center or by passing two semesters of Remedial English; credit hours thus earned may not be counted toward the minimum number required for a baccalaureate degree (for details, refer to the University’s <i>Implementation Procedures for</i></p>									Required Courses	Prerequisites	(1)	Calculus (MA1004)	Calculus (MA1003): 50 points or more	(2)	Engineering Mathematics I	Calculus (MA1003 and MA1004): 50 points or more	(3)	Engineering Mathematics II	Engineering Mathematics I: 50 points or more	(4)	Dynamics	Statics & Mechanics of Materials: 60 points or more	(5)	Precision Machine Design I	Statics & Mechanics of Materials: 60 points or more
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| | <p><i>Freshman Foreign Language Courses and Implementation Procedures for Remedial English Courses).</i></p> <p>9. Students are required to receive a passing grade in Service Education in accordance with the University's <i>Service Education Implementation Procedures</i> before being permitted to graduate.</p> |
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