

NUS DEPARTMENT OF MECHANICAL ENGINEERING

Summary of ME Modular Requirements and Credits (For student matriculating from **AY15/16**)

MODULAR REQUIREMENTS	MCS	TERM ⁴	NOTES
UNIVERSITY LEVEL REQUIREMENTS		20	
General Education (GE) (5 Modules, each of 4MCs) – Human Cultures (HC), Quantitative Reasoning (QR), Thinking and Expression (T&E) ² , Singapore Studies (SS), Asking Questions (AQ)	20		
UNRESTRICTED ELECTIVE MODULES (UEM)		20	
<i>UEM 1:</i>			
<i>UEM 2:</i>			
<i>UEM 3:</i>			
<i>UEM 4:</i>			
<i>UEM 5:</i>			
PROGRAMME REQUIREMENTS			
Faculty Requirements		10	
GET1021 or equivalent Critical Thinking and Writing ²	-		
ES2331 Communicating Engineering ¹	4		
HR2002 Human Capital in Organisation	3		
EG2401 Engineering Professionalism	3		
ES1xxx English ¹	(0)		
Foundational Modules		23	
MA1505 Mathematics I	4		
MA1506 Mathematics II	4		
EG1108 Electrical Engineering	3		
EG1109M Statics and Mechanics of Materials	4		
PC1431 Physics IE	4		
CS1010E Programming Methodology	4		
Mechanical Engineering Major Requirements			
ME Essential Modules:		42	
ME2113 Mechanics of Materials I	3	Odd	
ME2114 Mechanics of Materials II	3	Even	
ME2121 Engineering Thermodynamics	4	Odd	
ME2134 Fluids Mechanics I	4	Odd	
ME2135 Fluids Mechanics II	4	Even	
ME2142 Feedback Control Systems	4	Odd/Even	
ME2143 Sensors and Actuators	4	Even	
ME2151 Principles of Mechanical Engineering Materials	4	Odd	
ME3112 Mechanics of Machines	4	Even	
ME3122 Heat Transfer	4	Odd/Even	
ME3162 Manufacturing Processes	4	Odd	
ME Design, Project and Internship Modules:		33	
ME2101 Fundamentals of Mechanical Design	4	Even	
ME2103 Engineering Visualisation and Modelling	3	Even	
ME3103 Mechanical Systems Design	6	Odd/Even	
ME4101A B.Eng Dissertation (Over 2 semesters)	8		
EG3601 Industrial Attachment (Free Electives x 3 for Poly Students)	12		
MA1301 Introductory Mathematics (For direct poly intake only)³			
ME Technical Electives		12	
<i>ME TE 1:</i>			
<i>ME TE 2:</i>			
<i>ME TE 3:</i>			
TOTAL		160	

¹For students who have not passed or been exempted from the Qualifying English Test at the time of admission to the Faculty, they will have to read ES1000 and/or ES1102. This will be decided by CELC. The modules carry zero (0) MCs but students will have to pass in order to graduate. Students are recommended to take the English module in the 1st semester, as ES1102 is a pre-requisite of GET1021 (formerly EG1413/ES1531) & ES2331.

² GET1021 is to be counted towards GE (T&E) requirement. For more details, please refer to the section on English Modules at http://www.eng.nus.edu.sg/ugrad/MS_timetable.html.

³Accredited Polytechnic Direct Entry Students will have to take MA1301 Introductory Mathematics to be counted towards Free Elective.

⁴Please check the current schedule regularly via <http://www.me.nus.edu.sg/current-students/program-overview/sample-schedules> for possible changes if any.

Sample Semester Schedule for ME students (matriculating from AY15/16 onwards) – Industrial Attachment in Sem 5

Semester 1		MCs	Semester 2		
MA1505	Mathematics I	4	MA1506	Mathematics II	4
PC1431	Physics IE	4	GET1021	Critical Thinking and Writing (GE 2 – T&E) ²	4
CS1010E	Programming Methodology	4	EG1108	Electrical Engineering	3
EG1109M	Statics and Mechanics of Materials	4	ES2331	Communicating Engineering	4
GER1000	Quantitative Reasoning (GE 1 - QR) ¹	4	ME2103	Engineering Visualisation and Modelling	3
			GE 3 ¹		4
Sub-total		20	Sub-total		22
Semester 3			Semester 4		
ME2113	Mechanics of Materials I	3	ME2101	Fundamentals of Mechanical Design	4
ME2121	Engineering Thermodynamics	4	ME2114	Mechanics of Materials II	3
ME2151	Principles of Mechanical Engineering Materials	4	ME2135	Fluid Mechanics II	4
ME2134	Fluid Mechanics I	4	ME2143	Sensors and Actuators	4
ME3162	Manufacturing Processes	4	ME3112	Mechanics of Machines	4
GE 4 ¹		4	GE 5 ¹		4
Sub-total		23	Sub-total		23
Semester 5			Semester 6		
EG3601	Industrial Attachment	12	HR2002	Human Capital in Organizations	3
EG2401	Engineering Professionalism	3	ME2142	Feedback Control Systems	4
ME Technical Elective 1		4	ME3103	Mechanical Systems Design	6
			ME Technical Elective 2		4
			Unrestricted Elective Module 1 ¹		4
Sub-total		19	Sub-total		21
Semester 7			Semester 8		
ME4101A	B.Eng. Dissertation	4	ME4101A	B.Eng. Dissertation	4
ME3122	Heat Transfer	4	ME Technical Elective 3		4
Unrestricted Elective Module 2 ¹		4	Unrestricted Elective Module 4 ¹		4
Unrestricted Elective Module 3 ¹		4	Unrestricted Elective Module 5 ¹		4
Sub-total		16	Sub-total		16
Total					160

¹Students are strongly encouraged to complete all the five GE modules latest by the end of Year 2. UEM can be read in any semester and can be any modules out of your major requirements.

² GET1021 is to be counted towards GE (T&E) requirement. For more details, please refer to the section on English Modules at http://www.eng.nus.edu.sg/ugrad/MS_timetable.html.

Please note that this semester schedule is only a sample, you can customized your own schedule taking into considerations the semester the modules are offered and the pre- and co-requisites of a module.

Sample Semester Schedule for ME students (matriculating from AY15/16 onwards) – Industrial Attachment in Sem 6

Semester 1		MCS	Semester 2		
MA1505	Mathematics I	4	MA1506	Mathematics II	4
PC1431	Physics IE	4	GET1021	Critical Thinking and Writing (GE 2 – T&E) ²	4
CS1010E	Programming Methodology	4	EG1108	Electrical Engineering	3
EG1109M	Statics and Mechanics of Materials	4	ES2331	Communicating Engineering	4
GER1000	Quantitative Reasoning (GE 1 - QR) ¹	4	ME2103	Engineering Visualisation and Modelling	3
			GE 3 ¹		4
Sub-total		20	Sub-total		22
Semester 3			Semester 4		
ME2113	Mechanics of Materials I	3	ME2101	Fundamentals of Mechanical Design	4
ME2121	Engineering Thermodynamics	4	ME2114	Mechanics of Materials II	3
ME2151	Principles of Mechanical Engineering Materials	4	ME2135	Fluid Mechanics II	4
ME2134	Fluid Mechanics I	4	ME2143	Sensors and Actuators	4
ME3162	Manufacturing Processes	4	ME3112	Mechanics of Machines	4
GE 4 ¹		4	GE 5 ¹		4
Sub-total		23	Sub-total		23
Semester 5			Semester 6		
HR2002	Human Capital in Organizations	3	EG3601	Industrial Attachment	12
ME3122	Heat Transfer	4	EG2401	Engineering Professionalism	3
ME Technical Elective 1		4	ME Technical Elective 2		4
Unrestricted Elective Module 1 ¹		4			
ME3103	Mechanical Systems Design	6			
Sub-total		21	Sub-total		19
Semester 7			Semester 8		
ME4101A	B.Eng. Dissertation	4	ME4101A	B.Eng. Dissertation	4
ME2142	Feedback Control Systems	4	ME Technical Elective 3		4
Unrestricted Elective Module 2 ¹		4	Unrestricted Elective Module 4 ¹		4
Unrestricted Elective Module 3 ¹		4	Unrestricted Elective Module 5 ¹		4
Sub-total		16	Sub-total		16
Total					160

¹Students are strongly encouraged to complete all the five GE modules latest by the end of Year 2. UEM can be read in any semester and can be any modules out of your major requirements.

² GET1021 is to be counted towards GE (T&E) requirement. For more details, please refer to the section on English Modules at http://www.eng.nus.edu.sg/ugrad/MS_timetable.html.

Please note that this semester schedule is only a sample, you can customized your own schedule taking into considerations the semester the modules are offered and the pre- and co-requisites of a module.

Sample Semester Schedule for Accredited Poly Direct Entry ME students (matriculating in AY15/16)

Year 2					
Semester 3		MCs	Semester 4		MCs
MA1301	Introductory Mathematics ¹	4	MA1505	Mathematics I	4
PC1431	Physics IE	4	ME2101	Fundamentals of Mechanical Design	4
ME2151	Principles of Mechanical Engineering Materials	4	ME2103	Engineering Visualisation and Modelling	3
ME2113	Mechanics of Materials I	3	ME2143	Sensors and Actuators	4
GER1000	Quantitative Reasoning (GE 1 - QR)	4	ME2114	Mechanics of Materials II	3
ES1xxx	English ⁴	-	GET1021	Critical Thinking and Writing (GE 2 – T&E) ³	4
Sub-Total		19	Sub-Total		22
Year 3					
Semester 5		MCs	Semester 6		MCs
MA1506	Mathematics II	4	EG2401	Engineering Professionalism	3
ME2121	Engineering Thermodynamics	4	ME2135	Fluid Mechanics II	4
ME2142	Feedback Control Systems	4	ME3103	Mechanical Systems Design	6
ME2134	Fluid Mechanics I	4	ME3112	Mechanics of Machines	4
ME3162	Manufacturing Processes	4	GE 3 ²		4
Sub-Total		20	Sub-Total		21
Year 4					
Semester 7		MCs	Semester 8		MCs
ME4101A	B.Eng. Dissertation	4	ME4101A	B.Eng. Dissertation (cont'd)	4
ME3122	Heat Transfer	4	ME Technical Elective 3		4
ME Technical Elective 1		4	Free Elective 2 ²		4
ME Technical Elective 2		4	Free Elective 3 ²		4
GE 4 ²		4	GE 5 ²		4
Sub-Total		20	Sub-Total		20
Total					122

¹MA1301 will be counted towards Free Elective.

²These modules (GE, Free Electives) can be read in any semester.

³ GET1021 is to be counted towards GE (T&E) requirement. For more details, please refer to the section on English Modules at http://www.eng.nus.edu.sg/uqrad/MS_timetable.html.

⁴Either ES1000 and/or ES1102 depending on the results of your QET and decided by CELC.

Please note that this semester schedule is only a sample, you can customized your own schedule taking into considerations the semester the modules are offered and the pre- and co-requisites of a module.