NUS DEPARTMENT OF MECHANICAL ENGINEERING

Summary of ME Modular Requirements and Credits (For student matriculating from AY14/15)

MODULAR REQUIREMENTS		MCS	TERM[4]	NOTES
UNIVERSITY LEVEL REQUIREMENTS		**20**		
General Education Modules (GEM)				
- GEM B (From Group B:Humanities and Social Sciences):		4		
- GEK1549 Critical Thinking and Writing (*formerly EG1413/ES1531*) [2]		4		
Singapore Studies (SS) Module		4		
Breadth		8		
Breadth 1:				
Breadth 2:				
UNRESTRICTED ELECTIVE MODULES (UEM)		**20**		
UEM 1:				
UEM 2:				
UEM 3:				
UEM 4:				
UEM 5:				
PROGRAMME REQUIREMENTS				
Faculty Requirements		**10**		
ES2331	Communicating Engineering	4		
HR2002	Human Capital in Organisation	3		
EG2401	Engineering Professionalism	3		
ES1*xxx*	English[1]	(0)		
Foundational Modules		**23**		
MA1505	Mathematics I	4		
MA1506	Mathematics II	4		
EG1108	Electrical Engineering	3		
EG1109	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	
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**		
ME TE 1:				
ME TE 2:				
ME TE 3:				
TOTAL		160		

[1]For 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 GEK1549 (formerly EG1413/ES1531) & ES2331.

[2]GEK1549 is compulsory and has to be counted towards GEM A requirement. For more details, please refer to the section on English Modules at ***http://www.eng.nus.edu.sg/ugrad/MS_timetable.html***.

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

[4]Please check the current schedule regularly as there may changes in the term the modules are being offered.

Sample Semester Schedule for ME students (matriculating from AY14/15 onwards) – Industrial Attachment in Sem 5

Semester 1		MCs	Semester 2		MCs
MA1505	Mathematics I	4	MA1506	Mathematics II	4
PC1431	Physics IE	4	GEK1549[2]	Critical Thinking and Writing (GEM A)[2]	4
CS1010E	Programming Methodology	4	EG1108	Electrical Engineering	3
EG1109	Statics and Mechanics of Materials	4	ES2331	Communicating Engineering	4
SS[1]		4	ME2103	Engineering Visualisation and Modelling	3
Sub-total		20	Sub-total		18
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
GEM B[1]		4	Breadth 1[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
ME3122	Heat Transfer	4	ME3103	Mechanical Systems Design	6
			ME Technical Elective 1		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
ME Technical Elective 2		4	ME Technical Elective 3		4
Breadth 2[1]		4	Unrestricted Elective Module 4[1]		4
Unrestricted Elective Module 2[1]		4	Unrestricted Elective Module 5[1]		4
Unrestricted Elective Module 3[1]		4			
Sub-total		20	Sub-total		16
Total					**160**

[1]These ULR modules (GEM, SS, UEM, Breadth) can be read in any semester. Breadth modules are strictly modules read outside the student's faculty.
[2]GEK1549 is compulsory and has to be counted towards GEM A 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 AY14/15 onwards) – Industrial Attachment in Sem 6

Semester 1		MCs	Semester 2		MCs
MA1505	Mathematics I	4	MA1506	Mathematics II	4
PC1431	Physics IE	4	GEK1549	Critical Thinking and Writing (GEM A)[2]	4
CS1010E	Programming Methodology	4	EG1108	Electrical Engineering	3
EG1109	Statics and Mechanics of Materials	4	ES2331	Communicating Engineering	4
SS[1]		4	ME2103	Engineering Visualisation and Modelling	3
Sub-total		20	Sub-total		18
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
GEM B[1]		4	Breadth 1[1]		4
Sub-total		23	Sub-total		23
Semester 5			Semester 6		
HR2002	Human Capital in Organizations	3	EG3601	Industrial Attachment	12
ME3103	Mechanical Systems Design	6	EG2401	Engineering Professionalism	3
ME3122	Heat Transfer	4	ME2142	Feedback Control Systems	4
ME Technical Elective 1		4			
Unrestricted Elective Module 1[1]		4			
Sub-total		21	Sub-total		19
Semester 7			Semester 8		
ME4101A	B.Eng. Dissertation	4	ME4101A	B.Eng. Dissertation	4
Breadth[1]		4	ME Technical Elective 3		4
ME Technical Elective 2		4	Unrestricted Elective Module 4[1]		4
Unrestricted Elective Module 2[1]		4	Unrestricted Elective Module 5[1]		4
Unrestricted Elective Module 3[1]		4			
Sub-total		20	Sub-total		16
Total					**160**

[1]These ULR modules (GEM, SS, UEM, Breadth) can be read in any semester. Breadth modules are strictly modules read outside the student's faculty.
[2]GEK1549 is compulsory and has to be counted towards GEM A 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 AY14/15)

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
GEK1549	Critical Thinking and Writing (GEM A)[3]	4	ME2114	Mechanics of Materials II	3
ES1xxx	English[4]	-			
Sub-Total		**19**	**Sub-Total**		**18**
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	ME3102	Mechanical Systems Design II	4
ME2134	Fluid Mechanics I	4	ME3112	Mechanics of Machines	4
ME3162	Manufacturing Processes	4	ME Technical Elective 1		4
ME3101	Mechanical Systems Design I	4	Breadth 2[2]		4
Sub-Total		**24**	**Sub-Total**		**23**
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 2		4	Free Elective 3		4
Free Elective 2		4	Unrestricted Elective Module 1[2]		4
SS[2]		4	Unrestricted Elective Module 2[2]		4
Sub-Total		**20**	**Sub-Total**		**20**
Total					**124**

[1]MA1301 will be counted towards Free Elective.
[2]These ULR modules (GEM, SS, UEM, Breadth) can be read in any semester. Breadth modules are strictly modules read outside the student's faculty.
[3]GEK1549 is compulsory and has to be counted towards GEM A requirement. For more details, please refer to the section on English Modules at ***http://www.eng.nus.edu.sg/ugrad/MS_timetable.html****.*
[4]Either 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.