

**BEng (Industrial & Systems Engineering)**

Students Matriculated in AY2020/2021

**Recommended Semester Schedule for JC Intake****PPP Pathway Option 1: IE4102 ISM (4MCs) + EG3612 VIP (6MCs) + ISE Electives (16MCs)**

Modules		MCs	Modules		MCs
<b>Semester 1</b>			<b>Semester 2</b>		
MA1505	Mathematics I	4	MA1508E	Linear Algebra	4
CS1010E	Programming Methodology	4	ST2334	Probability & Statistics	4
IE1111R	Industrial & Systems Engineering Principles & Practice I	4	IE2111	Industrial & Systems Engineering Principles & Practice II	4
PC1431 or PC1432	Basket of Science Modules	4	MLE1010	Materials Engineering Principles & Practice	4
	GE/UEM	4	GERxxxx		4
<b>Sub-total</b>		<b>20</b>	<b>Sub-total</b>		<b>20</b>

<b>Semester 3</b>			<b>Semester 4</b>		
IE2110	Operations Research I	4	IE2100	Probability Models with Applications	4
EE2211	Introduction to Machine Learning	4	*IE2141	Systems Thinking and Dynamics	4
EG1311	Design and Make	4	GEQxxxx		4
ES2531	Critical Thinking & Writing	4	EG2401A	Engineering Professionalism	2
*IE2141		4		GE/UEM	4
IE3101	Statistics for Engineering Applications	4		GE/UEM	4
<b>* IE2141 can select either in Sem 1 or Sem 2</b>		<b>20/24</b>	<b>* IE2141 can select either in Sem 1 or Sem 2</b>		<b>22</b>
<b>Sub-total</b>			<b>Sub-total</b>		

<b>Semester 5</b>			<b>Semester 6</b>		
IE3100R	Systems Design Project	4	IE3100R	Systems Design Project	4
IE3110R	Simulation	4	IE4211	Modelling & Analytics	4
IE4240	Project Management	4		GE/UEM	4
	GE/UEM	4		GE/UEM	4
	GE/UEM	4		GE/UEM	4
<b>Sub-total</b>		<b>20</b>	<b>Sub-total</b>		<b>20</b>

<b>Special Term</b>		
EG3612	Vacation Internship Program	6
<b>Sub-total</b>		<b>6</b>

<b>Semester 7</b>			<b>Semester 8</b>		
IE4102	Independent Study Module (ISM)	4	IE4xxx	ISE Elective	4
IE4xxx	ISE Elective	4	IE4xxx	ISE Elective	4
IE4xxx	ISE Elective	4		GE/UEM	4
	GE/UEM	4		GE/UEM	4
<b>Sub-total</b>		<b>16</b>	<b>Sub-total</b>		<b>16</b>

Note:

- Students are required to read one General Education Modules (GE) from each of 5 pillars: Human and Cultures (H&C), Quantitative Reasoning (QR), Thinking and Expression (T&E), Singapore Studies (SS) and Asking Questions (AQ).
- Internship is optional for poly intake students and students in the following special programmes: DDPs, CDPs, GEP & CSP. The modular credits for the internship will become 'Free Electives' i.e., Unrestricted Electives (UE).
- Students should not read more than 60 MCs of level 1000 modules towards their degree requirements.
- This is just a recommended schedule. It is subject to change without prior notice.

**BEng (Industrial & Systems Engineering)**

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**Recommended Semester Schedule for JC Intake****PPP Pathway Option 2: IE4100R FYP (8MCs) + EG3612 VIP (6MCs) + ISE Electives (12MCs)**

Modules		MCs	Modules		MCs
<b>Semester 1</b>			<b>Semester 2</b>		
MA1505	Mathematics I	4	MA1508E	Linear Algebra	4
CS1010E	Programming Methodology	4	ST2334	Probability & Statistics	4
IE1111R	Industrial & Systems Engineering Principles & Practice I	4	IE2111	Industrial & Systems Engineering Principles & Practice II	4
PC1431 or PC1432	Basket of Science Modules	4	MLE1010	Materials Engineering Principles & Practice	4
	GE/UEM	4	GERxxxx		4
<b>Sub-total</b>		<b>20</b>	<b>Sub-total</b>		<b>20</b>

<b>Semester 3</b>			<b>Semester 4</b>		
IE2110	Operations Research I	4	IE2100	Probability Models with Applications	4
EE2211	Introduction to Machine Learning	4	*IE2141	Systems Thinking and Dynamics	4
EG1311	Design and Make	4	GEQxxxx		4
ES2531	Critical Thinking & Writing	4	EG2401A	Engineering Professionalism	2
*IE2141		4		GE/UEM	4
IE3101	Statistics for Engineering Applications	4		GE/UEM	4
<b>* IE2141 can select either in Sem 1 or Sem 2</b>		<b>20/24</b>	<b>* IE2141 can select either in Sem 1 or Sem 2</b>		<b>22</b>
<b>Sub-total</b>			<b>Sub-total</b>		

<b>Semester 5</b>			<b>Semester 6</b>		
IE3100R	Systems Design Project	4	IE3100R	Systems Design Project	4
IE3110R	Simulation	4	IE4211	Modelling & Analytics	4
IE4240	Project Management	4		GE/UEM	4
	GE/UEM	4		GE/UEM	4
	GE/UEM	4		GE/UEM	4
<b>Sub-total</b>		<b>20</b>	<b>Sub-total</b>		<b>20</b>

<b>Special Term</b>		
EG3612	Vacation Internship Program	6
<b>Sub-total</b>		<b>6</b>

<b>Semester 7</b>			<b>Semester 8</b>		
IE4100R	BEng Dissertation	4	IE4100R	BEng Dissertation	4
IE4xxx	ISE Elective	4	IE4xxx	ISE Elective	4
IE4xxx	ISE Elective	4		GE/UEM	4
	GE/UEM	4		GE/UEM	4
<b>Sub-total</b>		<b>16</b>	<b>Sub-total</b>		<b>16</b>

Note:

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- Internship is optional for poly intake students and students in the following special programmes: DDPs, CDPs, GEP & CSP. The modular credits for the internship will become 'Free Electives' i.e., Unrestricted Electives (UE).
- Students should not read more than 60 MCs of level 1000 modules towards their degree requirements.
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**Recommended Semester Schedule for JC Intake****PPP Pathway Option 3: IE4102 ISM (4MCs) + EG3611A IAP (10MCs) + ISE Electives (12MCs)**

Semester 1			Semester 2		
Modules		MCs	Modules		MCs
MA1505	Mathematics I	4	MA1508E	Linear Algebra	4
CS1010E	Programming Methodology	4	ST2334	Probability & Statistics	4
IE1111R	Industrial & Systems Engineering Principles & Practice I	4	IE2111	Industrial & Systems Engineering Principles & Practice II	4
PC1431 or PC1432	Basket of Science Modules	4	MLE1010	Materials Engineering Principles & Practice	4
	GE/UEM	4	GERxxxx		4
				GE/UEM	4
Sub-total		20	Sub-total		24

Semester 3			Semester 4		
IE2110	Operations Research I	4	IE2100	Probability Models with Applications	4
EE2211	Introduction to Machine Learning	4	*IE2141	Systems Thinking and Dynamics	4
EG1311	Design and Make	4	GEQxxxx		4
ES2531	Critical Thinking & Writing	4	EG2401A	Engineering Professionalism	2
		4		GE/UEM	4
*IE2141 /GE/UEM					
IE3101	Statistics for Engineering Applications	4		GE/UEM	4
				GE/UEM	4
* IE2141 can select either in Sem 1 or Sem 2		24	* IE2141 can select either in Sem 1 or Sem 2		26
Sub-total			Sub-total		

Semester 5			Semester 6		
IE3110R	Simulation	4	EG3611A	Industrial Attachment Programme	10
IE4240	Project Management	4			
IE4xxx	ISE Elective	4			
	GE/UEM	4			
	GE/UEM	4			
	GE/UEM	4			
Sub-total		24	Sub-total		10

Semester 7			Semester 8		
IE3100R	Systems Design Project	4	IE3100R	Systems Design Project	4
IE4xxx	ISE Elective	4	IE4211	Modelling & Analytics	4
IE4xxx	ISE Elective	4		GE/UEM	4
IE4102	Independent Study Module (ISM)	4		GE/UEM	4
Sub-total		16	Sub-total		16

Note:

- Students are required to read one General Education Modules (GE) from each of 5 pillars: Human and Cultures (H&C), Quantitative Reasoning (QR), Thinking and Expression (T&E), Singapore Studies (SS) and Asking Questions (AQ).
- Internship is optional for poly intake students and students in the following special programmes: DDPs, CDPs, GEP & CSP. The modular credits for the internship will become 'Free Electives' i.e., Unrestricted Electives (UE).
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