## Possible (non-binding) schedule for Industrial and Systems Engineering (ISE) students in the B.Eng (Hons) / B. Soc Sci (Hons) Double Degree Programme (AY2016/17 onwards)

YEAR 1		
Semester 1		MCs
MA1505 Mathematics I <sup>1</sup>	CA	4
ST1131 Introduction to Statistics <sup>1</sup>	CA	4
CS1010E Programming Methodology	C1	4
EC1101E Introduction to Economic		
Analysis	C2	<mark>4</mark>
FAS1102 Public writing and	C2	4
communication		
GER1000 Quantity	CA	4
Reasoning(QR)-GEM 1		
Semester 2		MCs
MA1506 Mathematics II <sup>1</sup>	CA	4
IE2140 Engineering Economy <sup>2</sup>	C1/CA	4
Basket of Engineering Science modules	C1	4
ST2131 Probability	C1	4
ES1531 Critical Thinking & Expository	CA	4
Writing		
EC2101 Microeconomic Analysis I	C2	4
YEAR 2		
Semester 1		MCs
IE2110 Operations Research I <sup>2</sup>	C1/CA	MCs 4
IE2110 Operations Research I <sup>2</sup> CS1020E Data Structures and	C1/CA C1	
IE2110 Operations Research I <sup>2</sup> CS1020E Data Structures and Algorithms	C1	4
IE2110 Operations Research I <sup>2</sup> CS1020E Data Structures and Algorithms IE2101 Introduction to Systems		4
IE2110 Operations Research I <sup>2</sup> CS1020E Data Structures and Algorithms IE2101 Introduction to Systems Thinking	C1 C1	4 4 4
IE2110 Operations Research I <sup>2</sup> CS1020E Data Structures and Algorithms IE2101 Introduction to Systems Thinking FASS - Level-1000 Exposure module	C1	4 4
IE2110 Operations Research I <sup>2</sup> CS1020E Data Structures and Algorithms IE2101 Introduction to Systems Thinking FASS - Level-1000 Exposure module (Asian Studies) x 1	C1 C1	4 4 4
IE2110 Operations Research I <sup>2</sup> CS1020E Data Structures and Algorithms IE2101 Introduction to Systems Thinking FASS - Level-1000 Exposure module (Asian Studies) x 1 (CH1101E/CL1101E/JS1101E/MS1101	C1 C1	4 4 4
IE2110 Operations Research I <sup>2</sup> CS1020E Data Structures and Algorithms IE2101 Introduction to Systems Thinking FASS - Level-1000 Exposure module (Asian Studies) x 1 (CH1101E/CL1101E/JS1101E/MS1101 E/SE1101E/SN1101E)	C1 C1 C2	4 4 4 4
IE2110 Operations Research I <sup>2</sup> CS1020E Data Structures and Algorithms IE2101 Introduction to Systems Thinking FASS - Level-1000 Exposure module (Asian Studies) x 1 (CH1101E/CL1101E/JS1101E/MS1101 E/SE1101E/SN1101E) Human and Cultures -GEM 2	C1 C1	4 4 4 4 4
IE2110 Operations Research I <sup>2</sup> CS1020E Data Structures and Algorithms IE2101 Introduction to Systems Thinking FASS - Level-1000 Exposure module (Asian Studies) x 1 (CH1101E/CL1101E/JS1101E/MS1101 E/SE1101E/SN1101E) Human and Cultures -GEM 2 Semester 2	C1 C1 C2 CA	4 4 4 4 4 4 MCs
IE2110 Operations Research I <sup>2</sup> CS1020E Data Structures and         Algorithms         IE2101 Introduction to Systems         Thinking         FASS - Level-1000 Exposure module         (Asian Studies) x 1         (CH1101E/CL1101E/JS1101E/MS1101         E/SE1101E/SN1101E)         Human and Cultures -GEM 2         Semester 2         IE2100 Probability Models with	C1 C1 C2	4 4 4 4 4 4
IE2110 Operations Research I <sup>2</sup> CS1020E Data Structures and         Algorithms         IE2101 Introduction to Systems         Thinking         FASS - Level-1000 Exposure module         (Asian Studies) x 1         (CH1101E/CL1101E/JS1101E/MS1101         E/SE1101E/SN1101E)         Human and Cultures -GEM 2         Semester 2         IE2100 Probability Models with         Applications	C1 C1 C2 CA C1	4 4 4 4 4 <u>4</u> <u>4</u> <u>MCs</u> 4
IE2110 Operations Research I <sup>2</sup> CS1020E Data Structures and         Algorithms         IE2101 Introduction to Systems         Thinking         FASS - Level-1000 Exposure module         (Asian Studies) x 1         (CH1101E/CL1101E/JS1101E/MS1101         E/SE1101E/SN1101E)         Human and Cultures -GEM 2         Semester 2         IE2100 Probability Models with         Applications         IE2130 Quality Engineering I	C1 C1 C2 CA C1 C1 C1	4 4 4 4 4 <u>4</u> <u>4</u> <u>MCs</u> 4 4
IE2110 Operations Research I <sup>2</sup> CS1020E Data Structures and         Algorithms         IE2101 Introduction to Systems         Thinking         FASS - Level-1000 Exposure module         (Asian Studies) x 1         (CH1101E/CL1101E/JS1101E/MS1101         E/SE1101E/SN1101E)         Human and Cultures -GEM 2         Semester 2         IE2100 Probability Models with         Applications         IE2130 Quality Engineering I         IE2150 Human Factors Engineering	C1 C1 C2 CA CA C1 C1 C1 C1	4 4 4 4 4 <b>MCs</b> 4 4 4 4
IE2110 Operations Research I <sup>2</sup> CS1020E Data Structures and         Algorithms         IE2101 Introduction to Systems         Thinking         FASS - Level-1000 Exposure module         (Asian Studies) x 1         (CH1101E/CL1101E/JS1101E/MS1101         E/SE1101E/SN1101E)         Human and Cultures -GEM 2         Semester 2         IE2100 Probability Models with         Applications         IE2130 Quality Engineering I         IE2150 Human Factors Engineering         EC2102 Macroeconomic Analysis I	C1 C1 C2 CA CA C1 C1 C1 C2	4 4 4 4 4 <b>MCs</b> 4 4 4 4 4
IE2110 Operations Research I <sup>2</sup> CS1020E Data Structures and         Algorithms         IE2101 Introduction to Systems         Thinking         FASS - Level-1000 Exposure module         (Asian Studies) x 1         (CH1101E/CL1101E/JS1101E/MS1101         E/SE1101E/SN1101E)         Human and Cultures -GEM 2         Semester 2         IE2100 Probability Models with         Applications         IE2130 Quality Engineering I         IE2150 Human Factors Engineering         EC2102 Macroeconomic Analysis I         Asking Questions -GEM 3	C1 C1 C2 CA CA C1 C1 C1 C1	4 4 4 4 4 <b>MCs</b> 4 4 4 4
IE2110 Operations Research I <sup>2</sup> CS1020E Data Structures and         Algorithms         IE2101 Introduction to Systems         Thinking         FASS - Level-1000 Exposure module         (Asian Studies) x 1         (CH1101E/CL1101E/JS1101E/MS1101         E/SE1101E/SN1101E)         Human and Cultures -GEM 2         Semester 2         IE2100 Probability Models with         Applications         IE2130 Quality Engineering I         IE2150 Human Factors Engineering         EC2102 Macroeconomic Analysis I	C1 C1 C2 CA CA C1 C1 C1 C2	4 4 4 4 4 <b>MCs</b> 4 4 4 4 4

IE3100M Systems Design Project	C1	6		
IE3101 Statistics for Engineering	C1	4		
Applications				
IE3110 Simulation	C1	5		
B.Eng. Technical Electives X 1	C1	4		
B.Eng. Common module –IE4240	C1/CA	4		
(Table D) <sup>2</sup>				
EC3303 Econometrics I	C2	4		
Semester 2		MCs		
IE3100M Systems Design Project	C1	6		
(cont'd)				
B.Eng. Technical Electives <sup>†</sup> X 1	C1	4		
EC3101 Microeconomics Analysis II	C2	4		
EC3102 Macroeconomics Analysis II	C2	4		
EC3304 Econometrics II	C2	4		
YEAR 4				
Semester 1		MCs		
XF4401 Integrated Project (replaces	CA	8		
FYP+2 electives) <sup>1</sup>				
B.A (Econ) common module X 1 (Table	CA	4		
D) <sup>2</sup>				
EC4101 Microeconomic Analysis III	C2	5		
EC4102 Macroeconomic Analysis III	C2	5		
IE4211	C1	4		
Semester 2		MCs		
XF4401 Integrated Project (cont'd) <sup>1</sup>	CA CA	8		
PH2208 Applied Ethics/PH2218-	CA	4		
Business Ethics/PH2223 –Introduction				
to the Philosophy of Technology				
(replaces EG2401) <sup>1</sup>		_		
B.Eng. Technical Electives X 1	C1	4		
B.A (Econ) Electives X 1 (level	C2	4		
2000/3000)				
BA (Econ) Elective x 1 (level 3000)	C2	4		
YEAR 5				
Semester 1		MCs		
Singapore Studies Module – GEM 4	CA	4		
B.A (Econ) Elective X 3 (level 4000)	C2	15		
B.A (Econ) Elective X 1 (level 3000)	C2	4		
Thinking and Expression – GEM 5	CA	4		

Minimum MCs = 203 MC

<sup>†</sup>must be IE coded from list of ISE elective modules

The modules that DDP students take are counted towards the CAP in the following manner:

1 <sup>st</sup> Degree	Classified as C1 in the database
2 <sup>nd</sup> Degree	Classified as C2 in the database
Both 1 <sup>st</sup> and 2 <sup>nd</sup> degrees	Classified as CA in the database

Both 1<sup>st</sup> and 2<sup>nst</sup> degrees Classified as CA in the database Additional modules taken will be counted towards C1, except for modules offered by the faculty of the student's  $2^{nd}$  degree, which will be classified as C2.

 Table D: BEng & BA modules that may be considered as common modules

 (8 MCs of Electives: Any One BEng Module and Any One BA (Econs) Module)

B.Eng. Modules	BA – Economics Modules
IE2110; IE2140; IE3120; IE4220; IE4240; IE4242;	EC3312; EC3322; EC3332; EC3333; EC3382; EC3385;
IE4243; IE4244	EC3386; EC4311; EC4303; EC4322, EC4372; EC5104;
	EC5314; EC5324R

Noted 1:

Students who are taking ES1531 have fulfilled B. Eng. Programme requirements. However, students need to do another GE module to fulfil T & E Pillar's requirement.

## Noted 2:

Only for ISE DDP students from cohort AY 2012 onwards:

With the removal of the Level 1000 Physics module as an Unrestricted Elective requirement, the DDP students in this programme will be fully exempted from Unrestricted Electives. In addition, with the inclusion of several Economics modules as non-ISE technical electives in the BEng (ISE) curriculum.

Besides, students have required to taking at least 16 MC as common modules (CA) from the below table to meet the both degree requirements.

<u>Four</u> common modules (*16 MC*): MA1505, MA1506, PH2208/PH2223 or PH2218, and ST1131.

At least two modules (8 MC) from the Table D for the Common Technical Elective modules

 Please take note that 8 MC of the following modules: *At least <u>One</u> BEng Module as shown in Table D At least <u>One</u> BA(Econs) Module as shown in Table D*