Core + computer modelling and simulation option timeline

Timings based on the following assumptions:

	SL	HL
Year 1 semester 1, Year 1 semester 2 and Year 2 semester 1	42 per semester	70 per semester
Year 2 semester 2	24	30
Total	150	240

- Both SL and HL students are taught in the same class.
- The last semester has been kept down due to revision and the exams. The topics in the guide do not have detailed point-by-point timings.
- Topics 4.1 and 4.2 taught through the other topics as threads.
- Group 4 project is based on models that are used in some schools.

Year 1	Core (+SL option)	HL extension
Semester 1	**SL/HL core:** **1.2** System design basics 1.2.1 **2.1** Computer organization 2.1.1–2.1.5 **4.3** Intro to programming 4.3.1–4.3.9 **SL/HL option core:** **B 1.1–B 1.6** Modelling systems—identify variables and test cases difference between a model and a simulation. **B 2.1–B 2.8** Simulations–rules and data representations: test cases **Integrated topics** **4.1** General principles (thinking logically, procedurally and abstractly) **4.2** Connecting computational thinking	**HL ext:** **6.1.1–6.1.9 Resource management** **HL option ext:** **B 4.1** Genetic algorithms **B 4.5–B 4.9** Natural language processing—distinguishing between machine and human language and learning
Semester 2	**SL/HL core:** **1.2** System design basics 1.2.4–1.2.11 **1.1** Systems in organizations 1.1.1–1.1.10 **2.1** Computer organization 2.1.6–2.1.13 **4.3** Intro to programming 4.3.10–4.3.13 **SL/HL option core:** **B 3.1–B 3.5** Visualization 2D and 3D—and hardware and software needs. **Integrated topics** **4.1** General principles (thinking ahead and concurrently); also reinforce above **4.2** Connecting computational thinking **Commencement of internal assessment** **Commencement of group 4 project**	**HL ext:** **5.1.1–5.1.20** Abstract data structures **HL ext:** **B 4.2–B 4.4** Neural networks **Case study** Introduction to case study

Year 2		
Semester 1	**SL/HL core:** **1.1** Systems in organizations 1.1.11–1.1.14 **1.2** System design basics 1.2.2–1.2.3, 1.2.12–1.2.16 **SL/HL option core:** **B 1.7–B 1.8** Effectiveness and correctness of models **B 2.9–B 2.13** Reliability, advantages and disadvantages of simulation. **Completion of internal assessment** **Completion of group 4 project**	**HL ext:** **7.1.1–7.1.7** Centralized control **Case study** Research linked to case study, analysis of information
Semester 2	**SL/HL core:** **3.1** Networks 3.1.1–3.1.16 **SL/HL option core:** **B 3.6** 3D Visualization in a given scenario **Submission of internal assessment**	**HL ext:** **7.1.8–7.1.9** Distributed systems **Case study** Synthesis and evaluation of research linked to case study