Senior Digital Solutions (General)
Learning & Assessment Overview 2020

Year 11		Year 12	
DIS Unit 1 **Creating with code**	**DIS Unit 2** **Application and data solutions**	**DIS Unit 3** **Digital innovation**	**DIS Unit 4** **Digital impacts**
In this unit students will explore the creative and technical aspects of developing interactive digital solutions. They investigate algorithms, programming features and useability principles to generate small interactive solutions using programming tools and gain a practical understanding of programming features. This allows them the opportunity to explore existing and developing trends involving digital technologies.	In this unit, students will optimise a given database and use Unit 1 programming skills to write procedural text-based code to generate a solution that interacts with an existing database via structured query language (SQL). They will plan, develop and generate the interface and code to enable the user to insert, update, retrieve and delete data using an existing database via SQL, following validation to ensure its integrity and reliability. Retrieved data will be displayed in text or visual format. They are required to understand the structure of a database, along with how primary and foreign keys and data types affect the performance of the database. They will evaluate the security, privacy and ethical effects of storing data in databases from multiple perspectives.	In this unit, students are required to engage with and learn subject matter through the use of the various phases of the problem-solving process in Digital Solutions. Students analyse the requirements of particular groups of people, and use knowledge and skills of problem-solving, computational, design and systems thinking. They will determine data requirements and use available resources to create prototyped digital solutions by programming and developing user interfaces to improve user experiences. Students will do this through one of the technology contexts: web or mobile applications, interactive media, or intelligent systems (which use microcontrollers, sensing or control boards).	In this unit, students learn how data is shared in both local and global contexts, particularly how digital solutions are increasingly required to exchange data securely and efficiently. Students will understand elements of cybersecurity by exploring the conditions, environment and methods for enabling data to flow between different digital systems. They will analyse data privacy and data integrity risks associated with transferring data between applications and evaluate the personal, social and economic impacts associated with the use and availability of both public and private data. Students will develop an application that simulates the exchange of data between two applications.
Topics 1. Understanding digital problems 2. User experiences and interfaces 3. Algorithms and programming techniques 4. Programmed solutions	**Topics** 1. Data-driven problems and solution requirements 2. Data and programming techniques 3. Prototype data solutions	**Topics** 1. Interactions between users, data and digital systems 2. Real-world problems and solution requirements 3. Innovative digital solutions	**Topics** 1. Digital methods for exchanging data 2. Complex digital data exchange problems and solution requirements 3. Prototype digital data exchanges
Unit Duration Yr 11 Weeks 1 - 16 (16 weeks)	**Unit Duration** Yr 11 Weeks 17 - 34 (17 weeks)	**Unit Duration** Yr 11 Weeks 35 - 38, Yr 12 Weeks 1 - 16 (20 weeks)	**Unit Duration** Yr 12 Weeks 17 - 33. External Exam Weeks 34 - 37 (16 weeks)

Assessment Task/s

FIA1	FIA2	FIA3	FIA4	IA1	IA2	IA3	EA4
Investigation - technical proposal *Weighting*: 20% *Conditions:* multimodal presentation, 9-11 minutes	**Project - digital solution** *Weighting*: 30% *Conditions:* 3 weeks, 8-10 A3 pages, 2-4 mins demonstration, 4-6 pages of code with annotations	**Project - folio** *Weighting*: 25% *Conditions:* 5 weeks, 8-10 A3 pages, 2-4 A4 pages of code with annotations, 1-2 min demonstration	**Examination** *Weighting*: 25% *Conditions:* 2 hrs + 10 mins perusal, short response items of 50-250 words, extended response 400+ words, 800-1000 word in total, unseen stimulus	**Investigation - technical proposal** *Weighting*: 20% *Conditions:* multimodal presentation, 9-11 minutes	**IA2 Project - digital solution** *Weighting*: 30% *Conditions:* 3 weeks, 8-10 A3 pages, 2-4 mins demonstration, 4-6 pages of code with annotations	**IA3 Project - folio** *Weighting*: 25% *Conditions:* 5 weeks, 8-10 A3 pages, 2-4 A4 pages of code with annotations, 1-2 min demonstration	**EA1 Examination** *Weighting*: 25% *Conditions:* 2 hrs + 10 mins perusal, short response items of 50-250 words, extended response 400+ words, 800-1000 word in total, unseen stimulus
Issued: Week 1 *Due:* Week 7	*Issued:* Week 12 *Due:* Week 16	*Issued:* Week 20 *Due:* Week 25	*Issued:* Week 34 *Due:* Week 34	*Issued:* Week 1 *Due:* Week 7	*Issued:* Week 12 *Due:* Week 16	*Issued:* Week 20 *Due:* Week 25	*Issued:* n/a *Due:* Week 34
Cognitive Verbs recognise, describe elements, components, principles and processes, symbolise, explain, analyse, determine, synthesise, generate, evaluate, justified, decisions	recognise, describe elements, components, principles and processes, symbolise, explain, analyse, determine, synthesise, generate, evaluate, justified, decisions	**Cognitive Verbs** recognise, describe elements, components, principles and processes, symbolise, explain, analyse, determine, synthesise, generate, evaluate, justified, decisions	recognise, describe elements, components, principles and processes, symbolise, explain, analyse, determine, synthesise, generate, evaluate, justified, decisions	**Cognitive Verbs** recognise, describe elements, components, principles and processes, symbolise, explain, analyse, determine, synthesise, generate, evaluate, justified, decisions	recognise, describe elements, components, principles and processes, symbolise, explain, analyse, determine, synthesise, generate, evaluate, justified, decisions	**Cognitive Verbs** recognise, describe elements, components, principles and processes, symbolise, explain, analyse, determine, synthesise, generate, evaluate, justified, decisions	recognise, describe elements, components, principles and processes, symbolise, explain, analyse, determine, synthesise, generate, evaluate, justified, decisions