ERASMUS DARWIN ACADEMY

*Excellence for All*

Academic Overview 2017-18

| Computing and ICT | | | | | | |
|---|---|---|---|---|---|---|
| | **Term 1** | **Term 2** | **Term 3** | **Term 4** | **Term 5** | **Term 6** |
| **Year 7** | Introduction to E-Safety | Introduction to Spreadsheet Modelling | Word Processing | Scratch Programming | Digital Graphics | Project |
| **Year 8** | Social Media and Cyberbullying | Computer Systems | Web Design & HTML | Databases | 2D Animation | Python Basics |
| **Year 9 Computer Science** | System architecture | Software | Data representation | Sound images | Logic | Algorithms |
| **Year 10 Computer Science** | Networks | Protocols | Operating systems and software | System security | Ethics and law | Programming |
| **Year 11 Computer Science** | Programming | NEA | NEA | Hardware<br>Software<br>Legal | Data<br>Logic | Constructs<br>Algorithms |

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Year 7 Curriculum Content Overview 2017-18

| Computing and ICT – Year 7 | | | | |
|---|---|---|---|---|
| **Knowledge and Skills**<br>**Students will be taught to….** | **Reading, Oracy, Literacy and Numeracy** | **Formative Assessment** | **Summative Assessment** | **Link to reformed GCSE Content** |
| What e-safety is and the dangers of this. Make sure students are aware of the reporting process, in and out of school.<br><br>Label the different parts of a spreadsheet. Use formulas and functions. Create charts and graphs.<br><br>Formatting techniques and mail merge using Word Processing software.<br><br>Programming constructs such as operators and variables. If statements will also be taught.<br><br>File types, bitmap and vector image knowledge. Photoshop skills to enhance or edit images. | Reading<br>• Information from the internet and summarise into own words<br><br>Numeracy<br>• Spreadsheet modelling and scratch programming linked to numeracy<br><br>Oracy and Literacy (including key words for practical subjects)<br>• Key words<br>• Student discussion | Questioning in lessons<br><br>Whole class feedback during lessons<br><br>Low stakes quizzing<br><br>Exit Strategies | 2 assessments throughout the academic year<br><br>Topic tests for each completed unit. | Legislation and Malware<br><br>Operators and Programming<br><br>Programming constructs<br><br>NEA report structure<br><br>Bitmap, Vector and File types. |

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Assessment Skills, Knowledge and Concepts Map (These need to be mapped backwards from GCSE and ensure that all students can access their target percentage) – what do all students need to achieve in year 7 to be able access their target grade and be on track for their year 11 target grade?

| **Computing and ICT – Year 7** | | |
|---|---|---|
| **Key Learning Questions** | **Introduction to E-Safety** | **Reading and Oracy** |
| • Why is e-safety and the dangers?<br>• Mobile technology, the features and how these could be used to your advantage?<br>• How can I create space? | • Define e-safety and what it covers<br>• Dangers or using email and the internet. Looking into phishing and giving examples<br>• Researching mobile phone technology features and how it can be used in a positive way<br>• Define terms such as flaming, cyberstalking and masquerading | • Reading facts and definitions.<br>• Student discussion and responses to questions. |
| **Key Learning Questions** | **Introduction to spreadsheet modelling** | **Numeracy** |
| • What are spreadsheets used for? What is modelling?<br>• Apply formulas and functions to a model<br>• Which type of graph/chart is suitable for given scenario? | • Label the different parts of the spreadsheets<br>• Be able to use simple formulas and functions<br>• Create suitable and meaningful graphs/charts using its features<br>• Apply the what if scenario using IF statements | • Addition, subtraction, multiplication and division.<br>• Correct way of labelling charts |
| **Key Learning Questions** | **Scratch Programming** | **Numeracy** |
| • Identify the different components of the interface<br>• What is the difference between sequence selection and iteration?<br>• Why are variables useful | • Understand scratch interface<br>• Explain sequence selection and iteration<br>• Understand and use variables<br>• Create a program using key constructs | • Operators |
| **Key Learning Questions** | **Digital Graphics** | **Literacy and Numeracy** |
| • What differences can you see in images?<br>• Where could these style of images be used?<br>• Which image takes up more computer memory and why? | • Describe vector and bitmap images<br>• Define compression and resolution<br>• Identify different image formats with pros and cons for each<br>• Demonstrate photo editing skills using Photoshop | • Reading and summarising key terms<br>• Pixels<br>• Photo dimensions |