

## **Computing Syllabus**

### **Courses offered at CGA**

- Pearson BTEC Level 3 National Extended Certificate in Computing (360 GLH) 601/7341/5  
(This is referred to at CGA as **Single Computing**)
- Pearson BTEC Level 3 National Diploma in Computing (720 GLH) 603/0445/5  
(This is referred to at CGA as **Double Computing**)

### **Qualifications, sizes and purposes at a glance**

<b>Title</b>	<b>Size and Structure</b>	<b>Summary of purpose</b>
<b>Pearson BTEC Level 3 National Extended Certificate in Computing</b>	360 GLH (465 TQT) Equivalent in size to one A Level. 4 units of which 3 are mandatory and 2 are external. Mandatory content (83%). External assessment (58%).	This qualification is designed to support learners who are interested in learning about the computing sector alongside other fields of study, with a view to progressing to a wide range of higher education courses, not necessarily in the computing sector. It is designed to be taken as part of a programme of study that includes other appropriate BTEC Nationals or A Levels.
<b>Pearson BTEC Level 3 National Diploma in Computing</b>	720 GLH (960 TQT) Equivalent in size to two A Levels. 8 units of which 6 are mandatory and 3 are external. Mandatory content (83%). External assessment (46%).	This qualification is designed to support learners who want an in-depth study of the computing sector as part of a 16–19 study programme. This programme may include other BTEC Nationals or A Levels to support progression to higher education courses in computing areas before entering employment. The additional qualification(s) studied allow learners either to give breadth to their study programme by choosing a contrasting subject, or to give it more focus by choosing a complementary subject.

## Qualification structure (Single)

### Pearson BTEC Level 3 National **Extended Certificate** in Computing **Mandatory units**

There are **three mandatory units**, one internal and two external. Learners must complete and achieve at Near Pass grade or above in all mandatory external units and achieve a Pass or above in all mandatory internal units.

### Optional units

Learners must complete **one optional unit**.

Pearson BTEC Level 3 National Extended Certificate in Computing				
Unit number	Unit title	GLH	Type	How assessed
<b>Mandatory units – learners complete and achieve all units</b>				
<b>1</b>	Principles of Computer Science	<b>120</b>	<b>Mandatory and Synoptic</b>	External
<b>2</b>	Fundamentals of Computer Systems	<b>90</b>	<b>Mandatory</b>	External
<b>7</b>	IT Systems Security and Encryption	<b>90</b>	<b>Mandatory</b>	Internal
<b>Optional units – learners complete 1 unit</b>				
<b>10</b>	Human-computer Interaction	<b>60</b>	<b>Optional</b>	Internal
<b>11</b>	Digital Graphics and Animation	<b>60</b>	<b>Optional</b>	Internal
<b>14</b>	Computer Games Development	<b>60</b>	<b>Optional</b>	Internal
<b>15</b>	Website Development	<b>60</b>	<b>Optional</b>	Internal
<b>17</b>	Mobile Apps Development	<b>60</b>	<b>Optional</b>	Internal
<b>20</b>	Managing and Supporting Systems	<b>60</b>	<b>Optional</b>	Internal
<b>22</b>	Systems Analysis and Design	<b>60</b>	<b>Optional</b>	Internal

*Note that optional units are likely to be limited to those the Computer Science department is able to offer.*

### External assessment

This is a summary of the type and availability of external assessment, which is of units making up 58% of the total qualification GLH. See *Section 5* and the units and sample assessment materials for more information.

Unit	Type
<b>Unit 1: Principles of Computer Science</b>	<ul style="list-style-type: none"> <li>• Written examination set and marked by Pearson.</li> <li>• 90 marks.</li> <li>• Two hours.</li> </ul>
<b>Unit 2: Fundamentals of Computer Systems</b>	<ul style="list-style-type: none"> <li>• Written examination set and marked by Pearson.</li> <li>• 80 marks.</li> <li>• 1 hour and 45 minutes.</li> </ul>

## Qualification structure (Double)

### Pearson BTEC Level 3 National Diploma in Computing Mandatory units

There are **six mandatory units**. Learners must complete and achieve at Near Pass grade or above in all three mandatory external units. Learners must complete all three mandatory internal units and achieve a Pass or above in two of these of these units.

### Optional units

Learners must complete at least **two optional units**.

Pearson BTEC Level 3 National Diploma in Computing				
Unit number	Unit title	GLH	Type	How assessed
<b>Mandatory external units – learners complete and achieve all units</b>				
<b>1</b>	Principles of Computer Science	<b>120</b>	<b>Mandatory</b>	External
<b>2</b>	Fundamentals of Computer Systems	<b>90</b>	<b>Mandatory</b>	External
<b>3</b>	Planning and Management of Computing Projects	<b>120</b>	<b>Mandatory and Synoptic</b>	External
<b>Mandatory internal units – learners complete all units and achieve at least 2</b>				
<b>7</b>	IT Systems Security and Encryption	<b>90</b>	<b>Mandatory</b>	Internal
<b>8</b>	Business Application of Social Media	<b>90</b>	<b>Mandatory</b>	Internal
<b>9</b>	The Impact of Computing	<b>90</b>	<b>Mandatory</b>	Internal
<b>Optional units – learners complete 2 units</b>				
<b>10</b>	Human Computer Interaction	<b>60</b>	<b>Optional</b>	Internal
<b>11</b>	Digital Graphics and Animation	<b>60</b>	<b>Optional</b>	Internal
<b>12</b>	Digital Audio	<b>60</b>	<b>Optional</b>	Internal
<b>13</b>	Digital Video	<b>60</b>	<b>Optional</b>	Internal
<b>14</b>	Computer Games Development	<b>60</b>	<b>Optional</b>	Internal
<b>15</b>	Website Development	<b>60</b>	<b>Optional</b>	Internal
<b>16</b>	Object Oriented Programming	<b>60</b>	<b>Optional</b>	Internal
<b>17</b>	Mobile Apps Development	<b>60</b>	<b>Optional</b>	Internal
<b>18</b>	Relational Database Development	<b>60</b>	<b>Optional</b>	Internal
<b>19</b>	Computer Networking	<b>60</b>	<b>Optional</b>	Internal
<b>20</b>	Managing and Supporting Systems	<b>60</b>	<b>Optional</b>	Internal
<b>21</b>	Virtualisation	<b>60</b>	<b>Optional</b>	Internal
<b>22</b>	Systems Analysis and Design	<b>60</b>	<b>Optional</b>	Internal
<b>23</b>	Systems Methodology	<b>60</b>	<b>Optional</b>	Internal

*Note that optional units are likely to be limited to those the Computer Science department is able to offer.*

## External assessment

This is a summary of the type of external assessment, which is of units making up 46% of the total qualification GLH. See *Section 5* and the units and sample assessment materials for more information.

Unit	Type
<b>Unit 1: Principles of Computer Science</b>	<ul style="list-style-type: none"><li>• Written examination set and marked by Pearson.</li><li>• 90 marks.</li><li>• Two hours.</li></ul>
<b>Unit 2: Fundamentals of Computer Systems</b>	<ul style="list-style-type: none"><li>• Written examination set and marked by Pearson.</li><li>• 80 marks.</li><li>• 1 hour and 45 minutes.</li></ul>
<b>Unit 3: Planning and Management of Computer Projects</b>	<ul style="list-style-type: none"><li>• A task set and marked by Pearson and completed under supervised conditions.</li><li>• There are two supervised assessment periods. Part A is a maximum of three hours in a one-week period and Part B is a maximum of two hours in a three-day period. Both periods are timetabled by Pearson.</li><li>• Completed using a computer and submitted electronically.</li><li>• 66 marks.</li></ul>