

**A Level Computer Science– Yr12 to Yr13
SIL (Summer Independent Learning)**

Deadline: First lesson back after Summer 2023

Part 1 – Website Development

Compulsory – must do!

HTML, CSS, Javascript Programming Task

As there will be a section of coding on your exam that relates to HTML, CSS and Javascript we have devised a task that will require you to develop a website that uses all three languages.

Theme

Produce a website on a topic of your choice. This could be your favourite film, your favourite brand, a computer game or any other suitable topic. Your website will need to have a minimum of four HTML pages in it.

Requirements

1. Your website should be constructed from HTML, CSS and Javascript that you have written yourself using an editor like notepad++ or something similar.
2. You cannot use a development tool like Dreamweaver which writes the code for you.
3. Your site must have a minimum of four pages in it.
4. You must have all of your pages linked to a single CSS file.
5. At least one page must feature user interaction using HTML forms and Javascript to process and output some form of user input. Javascript will have to process the user input and output it in some way, this is your decision.
6. **Optional: Try to include a variety of media types**

You need to make use of each of the features for each language shown on pages 2 and 3 below:

What to hand in

1. Print screens of your pages as they appear in a browser
2. Code listing of your webpages and css
3. Ensure you have commented your code to annotate what is happening with each section or line.

Language Features to be Used

HTML

Learners are expected to have an awareness of the following tags. Any other tags used will be introduced in the question.

```
<html>
<link> to link to a CSS file
<head>

<title>

<body>

<h1> <h2> <h3>

<img> including the src, alt, height and width attributes.

<a> including the href attribute.

<div>

<form>

<input> where the input is a textbox (i.e. has the attribute type="text" and another attribute name to
identify it) or a submit button (i.e. has the attribute type="submit")

<p>

<li>

<ol>

<ul>

<script>
```

CSS

Learners are expected to be able to use CSS directly inside elements using the style attribute

```
<h1 style="color:blue;">
```

and external style sheets. In the style sheets they should be able to use CSS to define the styling of elements:

```
h1{
    color:blue;
}
```

classes

```
.infoBox{
    background-color: green;
}
```

and Identifiers

```
#menu{
    background-color: #A2441B;
}
```

They are expected to be familiar with the following properties.

```
background-color
border-color
border-style
border-width
color with named and hex colours
font-family
font-size
height
width
```

JavaScript

Learners are expected to be able to follow and write basic JavaScript code. It is hoped they will get practical experience of JavaScript in their study of the course. They will not be expected to commit exact details of syntax to memory. Questions in the exam will not penalise learners for minor inaccuracies in syntax. Learners *will* be expected to be familiar with the JavaScript equivalents of the structures listed in the pseudocode section (with the exception of input and output (see below)). They will not be expected to use JavaScript for Object Oriented programming or file handling. Questions will not be asked in JavaScript where something is passed to a subroutine by value or reference is relevant.

Input

Input will be taken in by reading values from a form. *NB learners will not be expected to memorise the method for doing this as focus will be on what they do with that input once it is received.*

Output

By changing the contents of an HTML element

```
chosenElement = document.getElementById("example");  
chosenElement.innerHTML = "Hello World";
```

By writing directly to the document

```
document.write("Hello World");
```

By using an alert box

```
alert("Hello World");
```

Compulsory – must do!

Part 2 – Practical Project – Development

At this stage, the Analysis and Design sections of your project should be complete and although it may be necessary to revisit these two sections as you come across unexpected issues etc, it is now time to move onto the development of your system.

Ensure you evidence all stages of the system development carefully, remembering it is an iterative process and should show the coding, testing and review of separate prototypes clearly. Further guidance to this section is on Teams.

The deadline for the development and testing is at the end of the first term in Yr13 (December 2023), but the work you do during the summer break will have a big impact on the success of your project overall.

Optional – strongly recommended you complete!

Part 3 – 2018 AS Paper 1 and Paper 2

Download the 2018 paper 1 and paper 2 from Teams, and complete the two AS level papers. This will benefit you by ensuring you continue to recall and apply the theory we have learned throughout the year.

Once this is completed then use the metacognition traffic lighting system to highlight any areas you still need to work on, self assessing and correcting any mistakes as you work your way through the mark scheme.

There will be a SIL assessment within the first couple of lessons back, so this would be ideal revision and preparation.