



St George's School  
*Aim Higher*

# Sixth Form Options

Computer Science  
A Level Course - OCR

# Why study Computer Science?



## **Job Demand**

Computer Science professionals are in demand



## **Good Pay**

It often leads to well paying careers



## **Problem-Solving**

You'll develop skills to tackle complex challenges

# Why study Computing?



## **Versatility**

It applies to many industries from health to gaming



## **Innovation**

You can create new technology and shape the future



## **Global Impact**

Work on projects that make a difference worldwide



# University Courses

Computer  
Science

Programming, algorithms, computing theory,  
and software design

AI and Machine  
Learning

Developing intelligent systems and algorithms

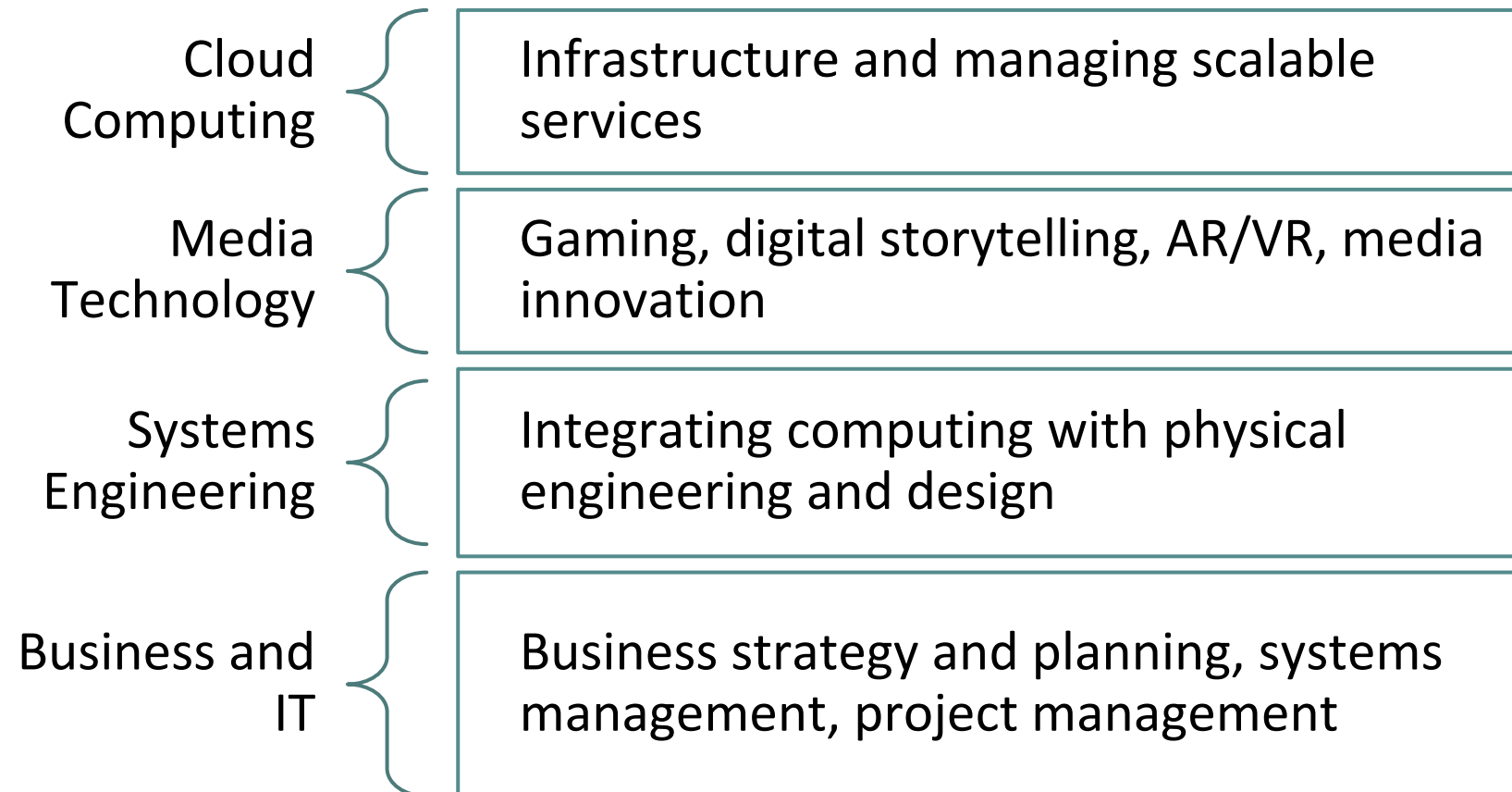
Cybersecurity

Protecting digital data, networks and  
infrastructure

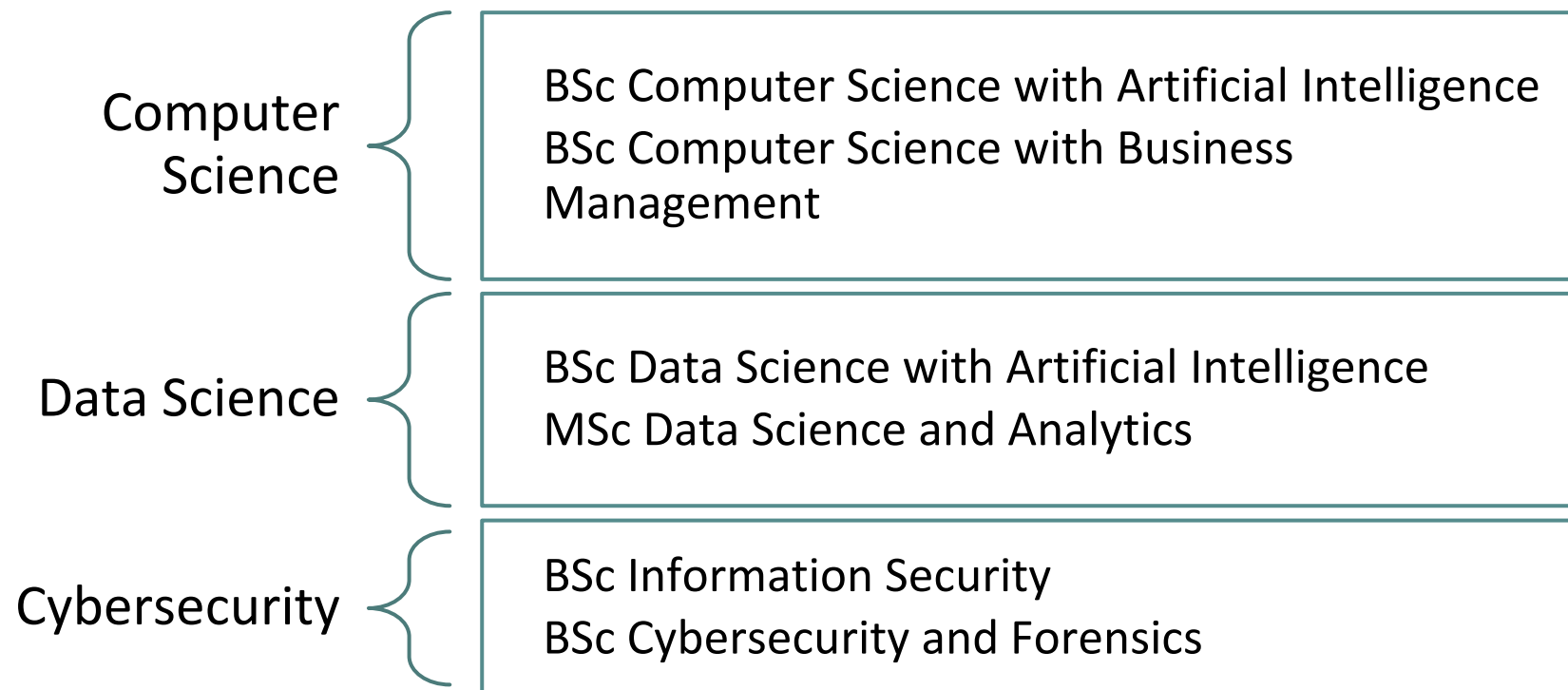
Data Science

Statistical modelling, data analysis, and  
visualisation

# University Courses



# University Courses > Top Three



# Joint University Courses

- ❑ Computer Science and Philosophy
- ❑ Computer Science and Music Technology
- ❑ Computer Science and Archaeology
- ❑ Computer Science and Psychology
- ❑ Computer Science and Criminology
- ❑ Computer Science and English Literature
- ❑ Computer Science and Theatre/Performing Arts
- ❑ Computer Science and Astronomy/Astrophysics
- ❑ Computer Science and Environmental Science
- ❑ Computer Science and Philosophy, Politics, & Economics



# Entry Criteria

- ▶ A minimum of 5 full GCSE's or equivalent, grade 5 or above including English language. Three of the passes need to be at grade 6 or above including Mathematics
- ▶ If you have not studied computer science before at GCSE, you need to show a keen and active interest in technology and programming

A LEVEL

Specification

# COMPUTER SCIENCE

H446

For first assessment in 2017

- **Exam Board : OCR**
- **Course Code : H446**
- **Specification :**  
  
<https://tinyurl.com/y294b2vy>

## 2a. Overview of A Level in Computer Science (H446)

Learners must take three components (01, 02 and 03 or 01, 02 and 04) to be awarded the OCR A Level in Computer Science.

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Content Overview	Assessment Overview	
<ul style="list-style-type: none"><li>• The characteristics of contemporary processors, input, output and storage devices</li><li>• Software and software development</li><li>• Exchanging data</li><li>• Data types, data structures and algorithms</li><li>• Legal, moral, cultural and ethical issues</li><li>• Elements of computational thinking</li><li>• Problem solving and programming</li><li>• Algorithms to solve problems and standard algorithms</li></ul> <p><i>The learner will choose a computing problem to work through according to the guidance in the specification.</i></p> <ul style="list-style-type: none"><li>• Analysis of the problem</li><li>• Design of the solution</li><li>• Developing the solution</li><li>• Evaluation</li></ul>	Computer systems (01) 140 marks 2 hours and 30 minutes written paper (no calculators allowed)	<b>40%</b> of total A level
	Algorithms and programming (02*) 140 marks 2 hours and 30 minutes written paper (no calculators allowed)	<b>40%</b> of total A level
	Programming project 03* – Moderated upload or 04* – Moderated postal or 80 – Carry forward (2018 onwards)* 70 marks Non-exam assessment	<b>20%</b> of total A level

➤ **2 written papers**

**2.5 hours each**

**80% of total marks**

➤ **Programming Project**

**20% of total marks**

# Component 01 - Computer Systems

- ▶ Components of a computer system
- ▶ Software and software development
- ▶ Exchanging data
- ▶ Data types and structures
- ▶ Legal, moral, cultural and ethical issues

# Component 2 - Algorithms and Programming

- ▶ Computational thinking
- ▶ Problem solving
- ▶ Algorithms

# Component 03 - Programming Project

- ▶ Pupils design and build a personalised project based on a topic of their choice
- ▶ The project guidelines focus on the use of high-level languages, complex programming, and Agile software development

# Is this course for you?

- ▶ Logical thinker
- ▶ Problem solver
- ▶ Persistent & methodical
- ▶ Enjoy programming
- ▶ Attention to detail
- ▶ Self-motivated

# Student Quotes

- ▶ “I have been captivated by computation and its advancements, and I always knew that I would love to dive deeper and really be able to understand the apparatus at my fingertips. That is why I chose to do Computer Science. Also, the job prospects are relatively good.”
- ▶ “Computer Science is a rapidly advancing field of study, which allows you to go into a variety of different roles, and you won’t find yourself short of employment. The subject itself is a lot of fun to study, and I particularly enjoy the practical aspect of it.”
- ▶ “I wanted to learn more about Computer Science as I am fascinated by the technological advances that the subject has brought to humanity. I believe this industry will continue to grow in the future.”









The Bertie Room  
named after the grandson of the  
founder who attended St George's  
with Sir John Denington. Named after  
the Earl of Bertie and the  
Bertie family have generously  
contributed to its development.

Devices can  
only be  
returned by  
the school.

Unauthorized  
software  
installation  
is prohibited.

With a fast  
Bertie Room  
you can  
access  
resources  
from home  
before the  
start of school.

lastname.firstname  
@students.stgeorges  
berts.sch.uk

ST GEORGE'S SCHOOL  
SUNDAY TIME'S SCHOOLS GUIDE  
SCHOOL OF THE YEAR  
2019

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2019

DISCOVERY  
GAINING  
ONLINE