

WHAT WILL STUDENTS LEARN?

Computational Thinking



Students will take a problem in any context, brainstorm possible solutions, then abstract and automate a solution.

Programming Languages



Key skills such as personal effectiveness, communication, critical thinking and more are developed through programming concepts, using languages such as Python and Javascript.

Design and Collaboration



Students will create meaningful digital products individually and in teams using reflective design processes.

Computers and Society



Students will learn about the ethical and social impact of computing technologies, Artificial Intelligence, Big Data, and more, on humans and society.

FOUR APPLIED LEARNING TASKS

Strand 3 comprises four Applied Learning Tasks. These give students opportunities to apply their skills and learn to create digital artefacts in a collaborative manner.

Interactive Information Systems

ALT
1

Students will develop an interactive website that can display information from a database to meet a set of user needs.

Analytics

ALT
2

Students will identify a topic from other subjects or disciplines, and analyse information relevant to that topic to inform and influence decisions around that topic.

Modelling and Simulation

ALT
3

Students will engage with a problem that is difficult to solve analytically, but that is amenable to a solution using simulation or modelling.

Embedded Systems

ALT
4

Students will implement a microprocessor system that uses sensors and controls digital inputs and outputs.

DON'T JUST WAIT FOR THE FUTURE TO HAPPEN: **CREATE IT**

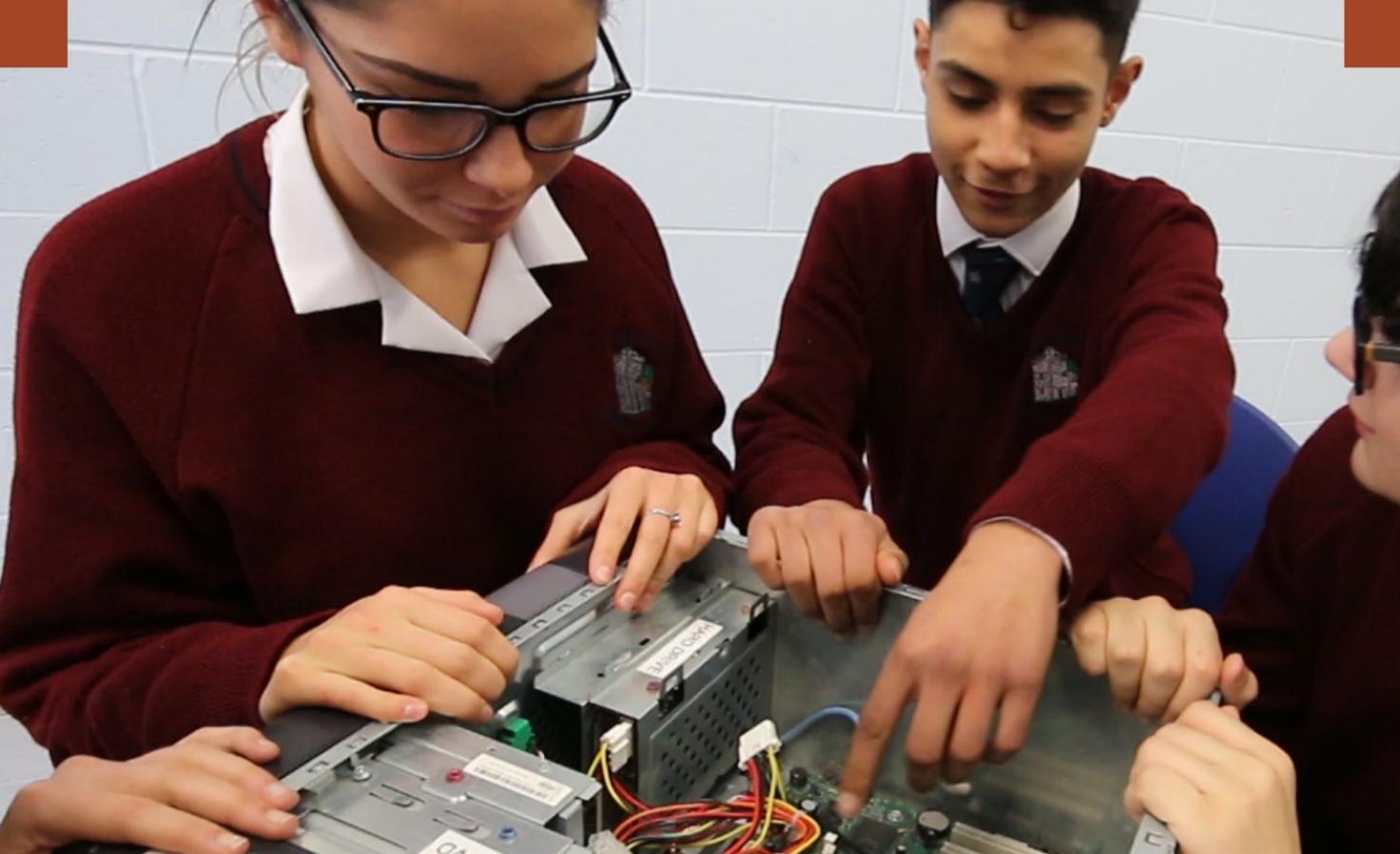
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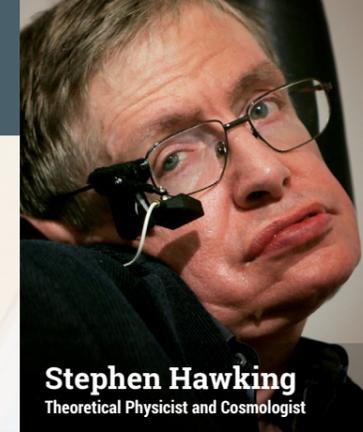
COMPUTER SCIENCE PHASE 1

DESIGNED COLLABORATIVELY BY A TEAM OF COMPUTER SCIENCE EDUCATORS AND STAKEHOLDERS.

40 SCHOOLS SELECTED TO BEGIN THE COURSE IN SEPTEMBER 2018.

PHASE 1 SCHOOLS TO BE ASSESSED IN 2020.

LEAVING CERTIFICATE COMPUTER SCIENCE IS AN OPTIONAL SUBJECT STUDENTS CAN CHOOSE IN 5TH YEAR.



Stephen Hawking
Theoretical Physicist and Cosmologist

WHETHER YOU WANT TO UNCOVER THE SECRETS OF THE UNIVERSE, OR YOU JUST WANT TO PURSUE A CAREER IN THE 21ST CENTURY, BASIC COMPUTER PROGRAMMING IS AN ESSENTIAL SKILL TO LEARN.

EVERY GIRL DESERVES TO TAKE PART IN CREATING THE TECHNOLOGY THAT WILL CHANGE OUR WORLD, AND CHANGE WHO RUNS IT.



Malala Yousafzai
Nobel Peace Prize Winner

Why Computer Science?



The accelerated expansion of computing technologies and artificial intelligence into all our lives means students need to understand the principles of computer science now, more than at any other time. Students studying this subject will gain both thinking and practical skills that are valuable well beyond the computer science classroom and into any future career.

What is Computer Science?



The study of algorithms and programming, and the impact of computers on society. It has its roots in design, engineering, maths, psychology and human creativity. Computer Science seeks creative ways to solve problems and evaluate solutions. It is about finding automated solutions to almost any problem you can imagine.

Who is it for?



Computer Science is for all students. It is structured to enable all students, of all abilities, to embrace this subject and succeed in every aspect of the course. Every career choice will increasingly require both digital and computer science literacy.

COMPUTER SCIENCE IS NO MORE ABOUT COMPUTERS THAN ASTRONOMY IS ABOUT TELESCOPES.

EDSGER DIJKSTRA
PIONEER IN COMPUTER SCIENCE

Course Structure

Three Strands



STRAND 1 - PRACTICES AND PRINCIPLES

- COMPUTATIONAL THINKING,
- COMPUTERS AND SOCIETY
- DESIGN AND DEVELOPMENT



STRAND 2 - CORE CONCEPTS

- ABSTRACTION
- BASIC ALGORITHMS
- COMPUTER SYSTEMS
- DATA
- EVALUATION AND TESTING



STRAND 3 - COMPUTER SCIENCE IN PRACTICE

- INTERACTIVE INFORMATION SYSTEMS
- ANALYTICS
- MODELLING AND SIMULATION
- EMBEDDED SYSTEMS

ASSESSMENT BREAKDOWN

70% | 30%

END OF COURSE EXAMINATION

INDIVIDUAL FINAL YEAR PROJECT

PYTHON AND JAVASCRIPT WILL BE THE PROGRAMMING LANGUAGES FOR ASSESSMENT PURPOSES IN **PHASE 1**.

