



LEAVING CERTIFICATE **COMPUTER SCIENCE** 2020



NCCA 

An Chomhairle Náisiúnta Curaclaim agus Measúnachta
National Council for Curriculum and Assessment

INFORMATION SHEET

ncca.ie/en/senior-cycle



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

COMPUTER SCIENCE NATIONAL ROLLOUT

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

SCHOOLS WISHING TO INTRODUCE THIS NEW SPECIFICATION SHOULD ENSURE THEY HAVE IN PLACE APPROPRIATELY QUALIFIED TEACHING PERSONNEL, DIGITAL DEVICES AND INFRASTRUCTURE REQUIRED FOR ITS IMPLEMENTATION.

VISIT THE DES WEBSITE FOR MORE

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

ASSESSMENT BREAKDOWN

70%
END OF COURSE
EXAMINATION

30%
INDIVIDUAL FINAL
YEAR COURSEWORK

PYTHON AND JAVASCRIPT ARE THE PROGRAMMING LANGUAGES FOR ASSESSMENT PURPOSES.

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



USEFUL LINKS

GO TO THE NCCA WEBSITE TO WATCH VIDEOS FEATURING PHASE 1 SCHOOLS SHARING THEIR EXPERIENCES AND OFFERING ADVICE FOR SCHOOLS WISHING TO PARTICIPATE IN THE NATIONAL ROLLOUT.

THE FULL LIST OF PHASE 1 SCHOOLS IS AVAILABLE ON THE DEPARTMENT OF EDUCATION WEBSITE.

THE OFFICIAL TEACHER PROFESSIONAL NETWORK IS THE COMPUTERS IN EDUCATION SOCIETY OF IRELAND WWW.CESI.IE

PDST RESOURCES CAN BE FOUND AT WWW.COMPSCI.IE

SOME INDUSTRY CONTACTS INVOLVED IN EDUCATION DEVELOPMENT

GOOGLE

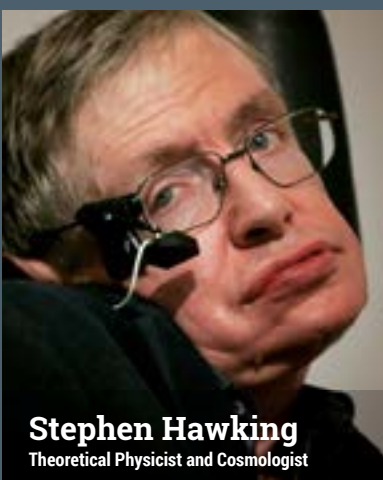
CLAIRE CONNEELY CONNEELYC@GOOGLE.COM

MICROSOFT

IAN GAUGHAN: EDUIRL@MICROSOFT.COM

APPLE

ÉANNA Ó BRÁDAIGH: EANNA@APPLE.COM



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.

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**

ncca.ie/en/senior-cycle