OCR

Oxford Cambridge and RSA

COMPUTING QUALIFICATIONS

Summary Brochure

New doors are opening in the world of computing. We've got it covered with a complete choice of qualifications at all levels.

ocr.org.uk/computing

SUMMARY BROCHURE: COMPUTING

WHAT'S IN THIS GUIDE?

A full suite of qualifications for 14–19 year olds

When it comes to giving your students sought-after digital knowledge and skills for the workplace and for everyday life, OCR is the UK's leading awarding body for computing qualifications.

Only OCR offers general and vocational qualifications from Entry Level to A Level. These modern qualifications have the highest standards built in throughout – and a desire to foster creativity and innovation at their heart.
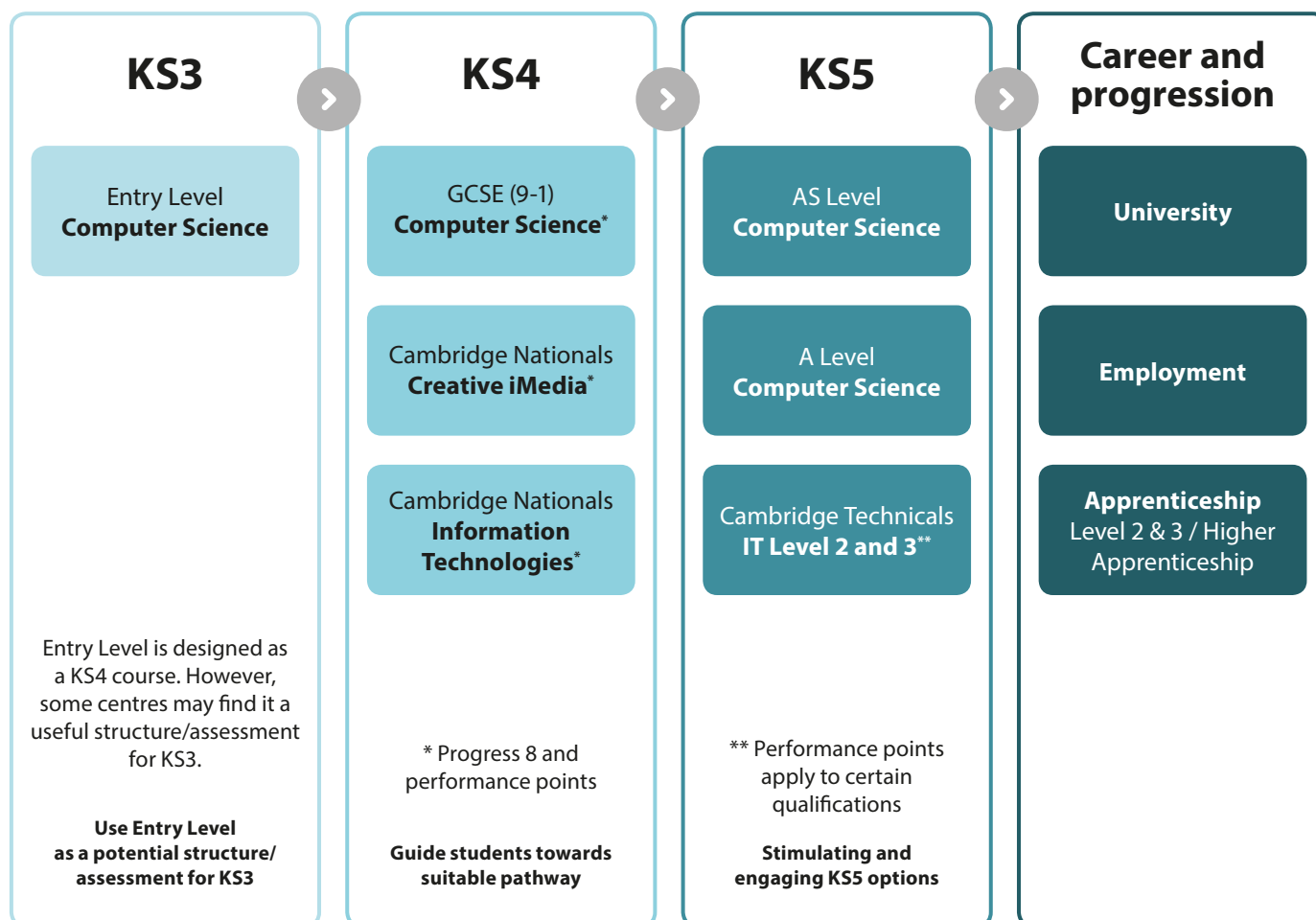
Our Subject Advisors work with higher education, further education, universities and employers to develop and hone practical and engaging computing qualifications.

These can open doors to diverse career paths, including roles in game design, web and animation development or perhaps network security, digital forensics and mobile app development.

They're backed up by the kind of practical, easy-to-use support we know teachers want. In fact, whether computing is your specialist subject or not, we have plenty for you.

Whatever path your students follow, our unmatched computing suite provides a comprehensive range of qualifications to prepare them for the digital workforce of tomorrow, plus flexibility, resources and ongoing free support for you.

PATHWAYS FOR COMPUTING

KS3	KS4	KS5	Career and progression
Entry Level **Computer Science**	GCSE (9-1) **Computer Science***	AS Level **Computer Science**	**University**
	Cambridge Nationals **Creative iMedia***	A Level **Computer Science**	**Employment**
	Cambridge Nationals **Information Technologies***	Cambridge Technicals **IT Level 2 and 3****	**Apprenticeship** Level 2 & 3 / Higher Apprenticeship
Entry Level is designed as a KS4 course. However, some centres may find it a useful structure/assessment for KS3. **Use Entry Level as a potential structure/ assessment for KS3**	* Progress 8 and performance points **Guide students towards suitable pathway**	** Performance points apply to certain qualifications **Stimulating and engaging KS5 options**	

KS4 qualifications

We offer a range of qualifications at KS4, each with a different focus. This allows you the ultimate flexibility in how you shape your computing curriculum to suit a wide range of students' needs.

GCSE (9–1) Computer Science	Computer systems, computational thinking, algorithms and programming
Cambridge National Certificate in Information Technologies	IT, data management and project management
Cambridge National Certificate in Creative iMedia	Websites, animation, gaming concepts, sound

GCSE (9–1) COMPUTER SCIENCE

KEY INFORMATION

SPECIFICATION CODE:

J277 (for first teaching September 2020, first assessment Summer 2022)

IDEAL FOR:

Level 2 students, students who are new to computing topics; students who want to experience computer science at an 'intermediate' level; students who are thinking of a computing career

PROGRESS TO:

A/AS Level Computer Science; Cambridge Technicals in Digital Media; Cambridge Technicals in IT or Level 2/Level 3 Apprenticeship

FINAL AWARD:

9 (highest) to 1 (lowest)

PERFORMANCE POINTS:

Yes, and eBacc subject

THE QUALIFICATION

Our GCSE (9–1) Computer Science builds on our pioneering qualification development in this field. Relevant to the modern, changing world of computing, it's designed to boost computing skills essential for the 21st century. We've talked to companies, organisations, academics and teachers to shape and develop this contemporary qualification.

You also have the reassurance that OCR is the market leader in GCSE Computer Science provision across the UK.

Our specification focuses on:

- Computational thinking as its core, helping students to develop the skills to solve problems, design systems and understand human and machine intelligence
- Applying the academic principles they learn in the classroom to real-world systems in an exciting and engaging way
- Giving students a clear progression into higher education, as the course was designed after consultation with members of BCS, CAS and top universities.

ASSESSMENT

GCSE (9–1) Computer Science is now assessed through two written examinations. Each exam is worth 50%. Programming is a core skill which continues to be a focal point of our updated GCSE. Candidates are required to develop programming skills as part of the GCSE. These skills will reinforce and support access to the content in the GCSE written examinations.

Learning can be delivered through a creative blend of practical and theoretical lessons. Students are given the opportunity to develop practical programming skills, and also develop vital understanding across a range of relevant computer science topics.

The written examinations are undertaken in the final year of the course. GCSE (9–1) Computer Science offers resit opportunities.

READ MORE:

ocr.org.uk/qualifications/gcse/computer-science-j277-from-2020

CAMBRIDGE NATIONALS

THE QUALIFICATIONS

Our Cambridge Nationals suite is specifically designed for students aged 14–16 years. They provide an excellent start for vocational study, contribute to a broad curriculum offer and enable progression to Level 3 vocational qualifications, such as our Cambridge Technicals, or A Level.

READ MORE:

ocr.org.uk/cambridgenationals

CAMBRIDGE NATIONALS IN
CREATIVE IMEDIA LEVEL 1/LEVEL 2

KEY INFORMATION

SPECIFICATION CODES:

J807 – Level 1 / Level 2 Cambridge National Award in Creative iMedia
J817 – Level 1 / Level 2 Cambridge National Certificate in Creative iMedia

IDEAL FOR:

Students aged 14–16 years

PROGRESS TO:

Level 3 vocational qualifications, such as our Cambridge Technical or A Level

PERFORMANCE POINTS:

Certificate is included on 2022 performance table (under Technical Award category). ✓

THE QUALIFICATIONS

Cambridge Nationals in Creative iMedia is media sector focused, including film, television, web development, gaming and animation, and has IT at its heart.

It provides your students with knowledge in a number of key areas, from pre-production skills to digital animation, and has a motivating, hands-on approach to both teaching and learning.

The qualification structure, including the range of units available, allows students the freedom to explore the areas of creative media that interest them, as well as providing good opportunities to enhance their learning in a range of curriculum areas.

ASSESSMENT

Creative iMedia uses both internal and external assessment. The mandatory pre-production skills unit is externally assessed and contributes 25% of the marks for the Certificate size qualification.

READ MORE:

ocr.org.uk/qualifications/creative-imedia-level-1-2-award-certificate-j807-j817

CAMBRIDGE NATIONALS IN
INFORMATION TECHNOLOGIES LEVEL 1/LEVEL 2

KEY INFORMATION

SPECIFICATION CODES:

J808

IDEAL FOR:

Students aged 14–16 years

PROGRESS TO:

Level 3 vocational qualifications, such as our Cambridge Technical or A Level

PERFORMANCE POINTS:

2022 performance table (under Technical Award category) ✓

THE QUALIFICATION

Cambridge National in Information Technologies will raise your students' confidence in using IT and plug potential gaps in digital skills and knowledge not covered by studying computing.

This qualification will develop your students' applied knowledge and practical skills in the creative use of information technologies. It is broken down into four main delivery themes:

- Project initiation, planning and review
- Collecting, manipulating/processing and storing data
- Creatively developing meaningful information for customer distribution
- Awareness of the importance of legal, moral, ethical and security factors

ASSESSMENT

This qualification is 120 Guided Learning Hours, and is equivalent to a GCSE in both size and rigour.

There is one centre-assessed unit offering practical task-based assessment opportunities, alongside the examined unit of assessment, which contains underpinning knowledge and understanding. Students have the opportunity both to resit the external and internal assessment.

READ MORE:

ocr.org.uk/informationtechnologies

A LEVEL COMPUTER SCIENCE

KEY INFORMATION

SPECIFICATION CODE:
H446

IDEAL FOR:
Students who
- Are looking to develop an advanced understanding of computer science
- Want to apply their coding ability to solve real-world problems
- Are looking at a computing orientated degree
- Are aiming to work in the computing industry

PROGRESS TO:
University, employment, Level 4 Higher Apprenticeships

PERFORMANCE POINTS:
Yes

THE QUALIFICATION
Our A Level Computer Science qualification splits learning into three section: Computer Fundamentals, Programming Techniques and Logical Methods, and a Programming Project. A natural progression from GCSE (9–1) Computer Science, it provides the perfect springboard for students looking at specialising in a computing-based career.

Within the course, students study a range of theory topics, which include the principles and understanding linked to programming, topics such as hardware and software, networks, systems development life cycles and implications of computer use.

It enables teachers to tailor the qualification to match the requirements of students and has an open source ethos allowing you to use any programming language that meets the needs of the course.

Our A Level will develop a student's ability to:
- Think creatively, innovatively, analytically, logically and critically
- Apply skills in and an understanding of computing (including programming) in a range of contexts to solve problems
- Delve into producing graphical user interfaces and object-orientated programming solutions.

Through the creation of a programming project, students will have the opportunity to create a substantial piece of software using modern design methods and, guided by teachers, they will look to display their skills and talents.

ASSESSMENT
A Level Computer Science is assessed through two written exams (each worth 40%) and a Programming Project (worth 20%). There is one re-sit opportunity for this subject.

READ MORE:
ocr.org.uk/qualifications/as-a-level-gce-computer-science-h046-h446-from-2015

AS LEVEL COMPUTER SCIENCE

KEY INFORMATION

SPECIFICATION CODE:
H046

IDEAL FOR:
Students who
- May want to complete the A Level, but have no experience of computer science so far
- Are thinking of a career in Computer Science, but don't want to focus on coding as a discipline

PROGRESS TO:
A Level, Level 3 Cambridge Technical in IT or Digital Media, university, employment, Level 4 Higher Apprenticeships

PERFORMANCE POINTS:
Yes

THE QUALIFICATION
Our AS Level Computer Science qualification splits learning into two sections: Computer Fundamentals, and Programming Techniques and Logical Methods. The qualification is unique as it is the only one in the Computer Science suite that does not test a student's ability to program. Within the course, students study a range of theory topics, which include the principles and understanding linked to programming, as well as topics such as hardware and software, networks, systems development life cycles and implications of computer use.

ASSESSMENT
AS Level Computer Science is assessed through two examinations, each worth 50%. There are re-sit opportunities for this subject.

READ MORE:
ocr.org.uk/qualifications/as-a-level-gce-computer-science-h046-h446-from-2015

FUNCTIONAL SKILLS ICT
FROM ENTRY LEVEL 1 TO LEVEL 2

KEY INFORMATION

SPECIFICATION CODE:

ICT Entry Level:
09873, 09874, 09875

ICT Level 1:
09876

ICT Level 2:
09877

IDEAL FOR:

Young people and adults, whether they're in education, training, work or preparing for work

PERFORMANCE POINTS:

No

THE QUALIFICATION

Functional Skills qualifications give your students a practical grounding in how to apply ICT skills to everyday situations. With a strong focus on explanation and problem solving, using real-life contexts they allow your students to apply their ICT skills in a variety of situations. For example, a self-employed boiler engineer will be able to set up a database of customers, with names, addresses and contact details, so that a mailing list can be created to remind clients when their service is due.

ASSESSMENT

ICT Entry Levels 1–3

- OCR-set tasks at each Entry Level (with the option to contextualise to suit the needs of the individual).
- Students will be required to use the internet and email software.

ICT Levels 1 and 2

- One question paper (Part A and Part B) externally set and marked by us at OCR.
- Practical tasks using a computer and completion of short answer questions under examination conditions.

IN-APP, ON-SCREEN, ON-DEMAND TESTING

We believe in real-life functional assessments equipping your students with the skills they need to succeed in life. Our 'in-app testing' allows students to work with commonly used software, like Microsoft Word, to produce work and upload it into the test. This means they'll be tested in a 100% non-simulated environment including 'real' email and internet searches.

Paper-based, on-demand assessment runs alongside the online testing service.

READ MORE:

**Discover more about e-testing and how to get started at ocr.org.uk/e-testing
For more information on Functional Skills, visit ocr.org.uk/functionalskills**

ENTRY LEVEL COMPUTER SCIENCE

KEY INFORMATION

SPECIFICATION CODE:

R354

IDEAL FOR:

Level 1 students; students who are new to computing topics, students who want to experience computer science at a fundamental level; students who may struggle with a Level 2 award at KS4

PROGRESS TO:

GCSE (9–1) Computer Science, Level 2 Cambridge National in Creative iMedia, Level 2 Cambridge National in Information Technologies

PERFORMANCE POINTS:

No

THE QUALIFICATION

Entry Level Computer Science provides students with a fundamental understanding of computer technology and computing principles and takes a look at what goes on 'behind the scenes'. It introduces and assesses relevant, transferable skills, including problem solving. The content has been designed to create a solid basis of understanding, engage your learners and get them thinking about real-world application of Computer Science.

ASSESSMENT

Entry Level is assessed through two written exams (each worth 40%) and a programming project (worth 20%). You deliver and assess the topics in class, with students able to re-sit tests they may not have been successful with.

READ MORE:

ocr.org.uk/qualifications/entry-level-computer-science-r354-from-2016

CAMBRIDGE TECHNICALS

ABOUT CAMBRIDGE TECHNICALS

Cambridge Technicals are vocational qualifications at Level 2 and Level 3 for students **aged 16+**. They're designed with the workplace and progression to higher education in mind and provide a high-quality alternative to A Levels at level 3. Qualifications at levels 2 and 3 have a mixture of internal and external assessments and centres are allocated a visiting moderator.

KEY INFORMATION

SPECIFICATION CODES:

IT Level 3 (2016) Certificate/Extended Certificate/ Foundation Diploma/Diploma/Extended Diploma – 05838–05842, 05877

IT Level 3 (2012) Certificate/Introductory Diploma/ Subsidiary Diploma/Diploma/Extended Diploma – 05347, 05349, 05352, 05355, 05358

Note: IT Level 3 (2012) qualifications will be defunded in England from August 2020

PERFORMANCE POINTS:

All IT Level 3 (2016) qualifications are eligible for Key Stage 5 performance points

IDEAL FOR:

Students aged 16+

PROGRESS TO:

Higher education, apprenticeships, employment

UCAS POINTS:

Level 3 qualifications receive UCAS tariff points

LEVEL 3

Our Level 3 Cambridge Technicals in IT qualifications help your students to achieve their potential and progress to the next stage of their lives, whether that's higher education, an Apprenticeship or employment.

Where applicable we have designed refreshing and exciting content that's up to date, engaging, fit for purpose and suitable for the needs of your students. To do this, we've consulted with universities, employers and industry specialists to make sure your learners will gain the right combination of knowledge, understanding and skills required for the 21st century.

An extensive range of centre-assessed units with practical and wider project-based assessment opportunities, as well as examined units on the Fundamentals of IT, Global Information, Cyber Security, and Cloud Technology, has resulted in focused qualifications. Depending on the size chosen, these qualifications can either complement a Key Stage 5 study programme alongside other vocational qualifications or A Levels, or may make up the bulk of a two-year study programme. Our Diplomas have vocational pathways within them that learners can follow (one pathway must be achieved).

READ MORE:

ocr.org.uk/cambridgetechnicals
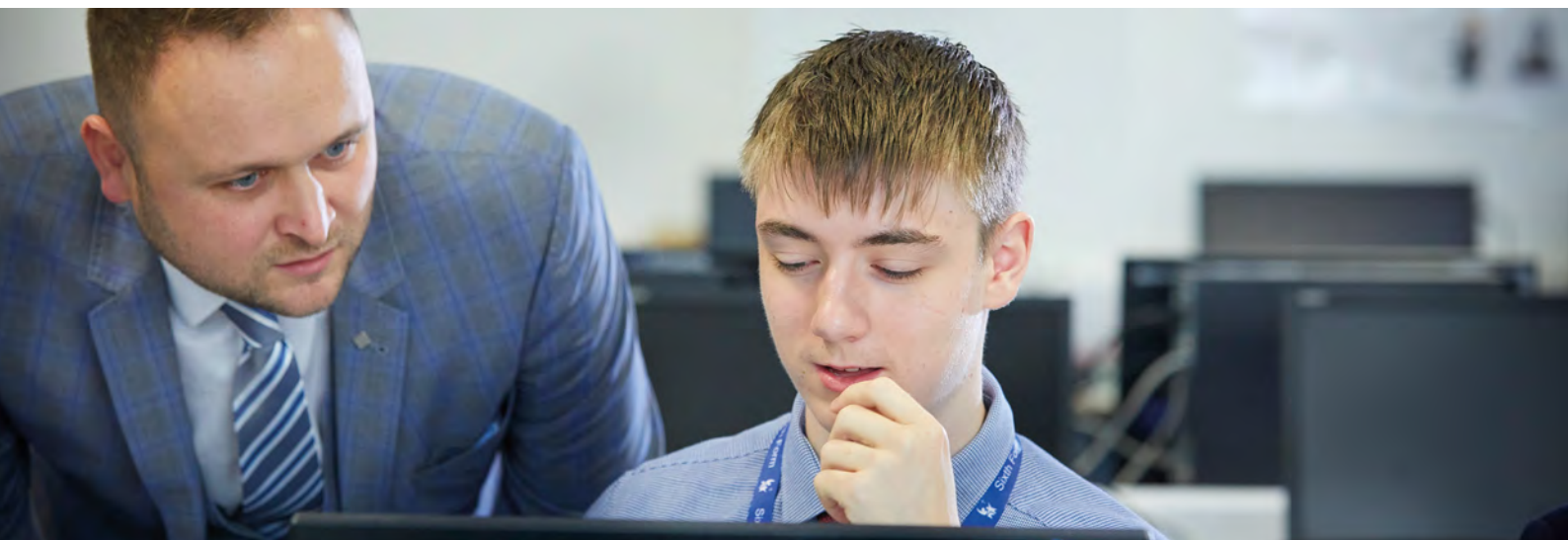
CAMBRIDGE TECHNICALS

KEY INFORMATION

SPECIFICATION CODES:

IT Level 2 (2016) Award*/Certificate/Diploma – 05882, 05883, 05884

IT Level 2 (2012) Certificate/Extended Certificate/ Diploma – 05340, 05342, 05345

PERFORMANCE POINTS:

IT Level 2 (2016) Certificate/Diploma – 05883, 05884 are eligible for Key Stage 5 performance points

*IT Level 2 (2016) Award – 05882 is not eligible for Key Stage 5 performance points.

IDEAL FOR:

Students aged 16+

PROGRESS TO:

Level 3, apprenticeships, employment

LEVEL 2

Our Level 2 Cambridge Technicals in IT qualifications aim to develop your students' understanding and skills of the essentials of IT and cyber security. Your students will gain an insight into the IT sector as they, where applicable, investigate the pace of technological change, IT infrastructure on a global scale, and the importance of legal and security considerations. Designed in collaboration with industry experts, the qualifications focus on the requirements that today's employers demand.

Thanks to a broad range of centre-assessed units with practical and wider project-based assessment opportunities, as well as examined units on the Essentials of IT and Essentials of Cyber Security, these are focused qualifications. There are also job role-specific pathways for your students to choose from.

READ MORE:

ocr.org.uk/cambridgetechnicals
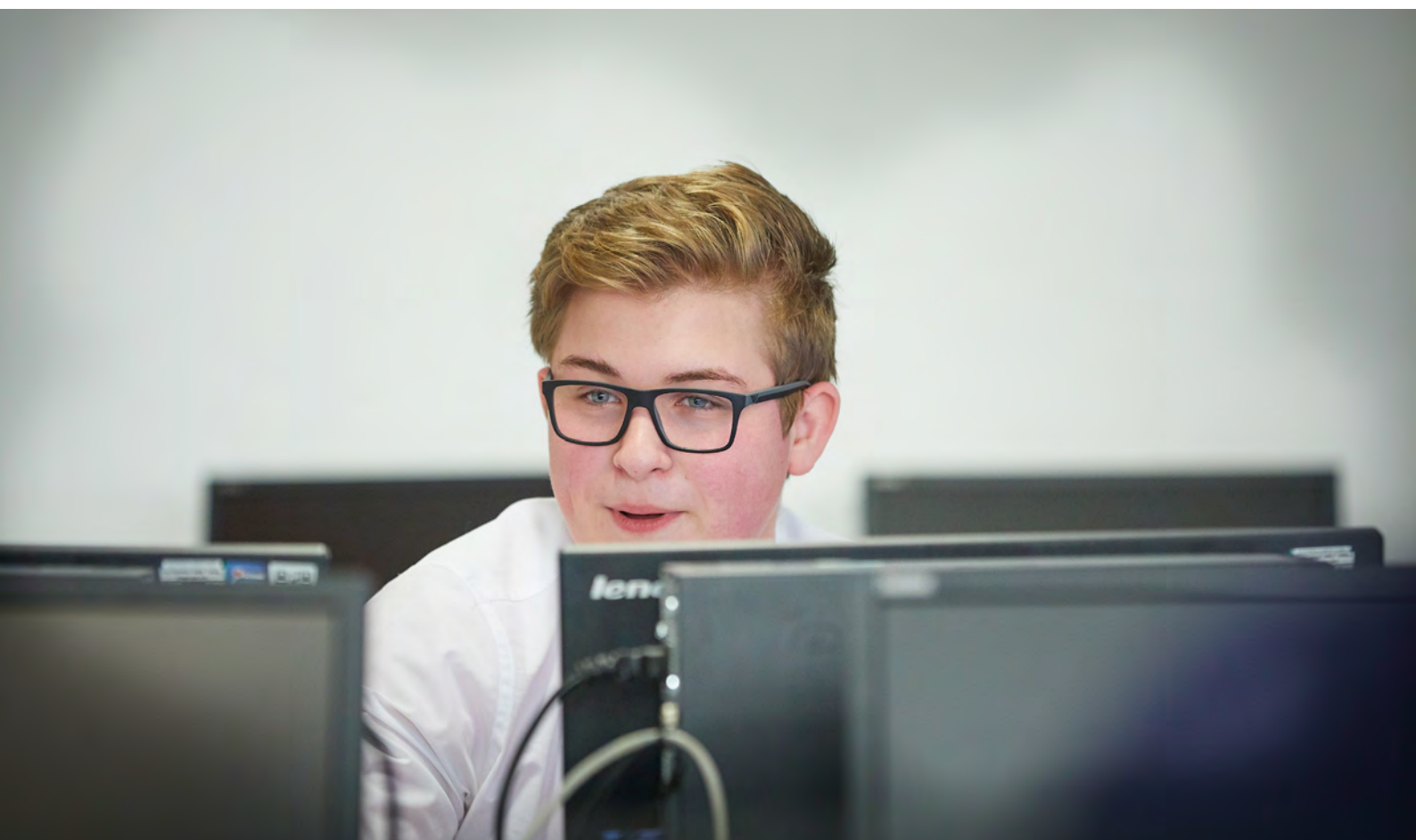
SUPPORTING YOU IN QUALIFICATION DELIVERY

Our aim is to support you on your journey with us from initial enquiry right through to results. To help you get going, support you through delivery and allow you to develop professionally, we provide a massive range of support to help secure your students' futures.

SUPPORT AND RESOURCES

EXPERT SUBJECT ADVICE

Our Subject Advisors provide information and support to schools, including specification and non-exam assessment advice, updates on resource developments and a range of training opportunities. You can reach them on **01223 553998** or at **computerscience@ocr.org.uk**

TEACHING AND LEARNING RESOURCES

- **Lesson Elements**
  Task sheets and accompanying instructions for some of the activities in the delivery guide.
- **Skills Guides**
  A range of generic skills guides providing knowledge and tips covering topics such as communication, research skills and exam techniques.
- **Topic Exploration Packs**
- **Teacher and Delivery Guides**
  A range of lesson ideas with associated activities that you can use with learners to deliver the contents of the qualifications.
- **Transition Guides**
- **Scheme of Work Builder**
  Create and export your own schemes of work based on specification statements and our new teaching and learning resources.

SAMPLE LEARNER WORK

We've created sample learner work across the majority of our qualifications that will support you in understanding the expectations of the mark schemes.

PARTNER RESOURCES AND TEXTBOOKS

Our computing qualifications are supported by endorsed textbooks and resources published by leading publishers. You can find more details about our publisher partners and the resources they're providing at **ocr.org.uk/publishing-partners**

BLOGS

Read our Computing blogs and gain interesting insights from our Subject Advisors and other leading figures from the world of computing and ICT.

ASSESSMENT

ACTIVE RESULTS

This is a **free** online A Level, GCSE and Cambridge Nationals results analysis service to help you review the performance of individual students or your whole school. Active Results provides access to detailed results data, enabling more comprehensive analysis of results to give you a more accurate measure of the achievements of your centre and students.
Find out more at **ocr.org.uk/activeresults**

ASSESSMENT MATERIALS

Sample question papers and sample candidate work.

EXAMBUILDER

A **free** online mock assessment service for Cambridge Nationals and GCSE and A Level Computer Science. It draws on historical past papers to simulate a real examination and gives students the opportunity to practise and build up confidence. **ocr.org.uk/exambuilder**

PAST PAPERS

Previous examination papers for each subject with which you and your students can practise.

PROGRESS TRACKER

An Excel-based tracking tool to help you monitor students' progress throughout the qualification.

INITIAL ASSESSMENT (FUNCTIONAL SKILLS)

This **free** paper-based tool helps you profile your students' starting point. You can access it through **interchange.ocr.org.uk** – our secure website for centres, which offers a variety of useful services and valuable resources.

TRAINING AND PROFESSIONAL DEVELOPMENT

PROFESSIONAL DEVELOPMENT TRAINING AND EVENTS

All our qualifications are supported with comprehensive training. Check out **ocr.org.uk/professionaldevelopment** to find out what's available for face-to-face or online training courses.

TEACHER NETWORKS

These free informal twilight meetings are designed to encourage and develop local networking and support for Computing in your area. They're an opportunity to speak with like-minded colleagues and one of our Subject Advisors.
Visit **ocr.org.uk/professionaldevelopment** to find a meeting near you.

Discover more – ocr.org.uk/computing

For more information visit
ocr.org.uk/computing
or call our Customer Support Centre on
01223 553998

Alternatively, you can email us on
computerscience@ocr.org.uk