



# Digitech Studio School

## KS4 Curriculum Choices

### September 2017

Digitech gives you a selection of subjects from which to choose. While we want you to make your own choices as far as possible, there may be some choices you make which we may feel are not appropriate for you. In cases such as this we will meet with you and possibly your parents or carer to discuss your choice and 'guide' you towards a more appropriate selection. In this way, we will try to maximise your chances of attaining your full potential across a good range of qualifications recognised by colleges, universities and employers.

#### **How can I decide what subjects are best for me?**

'What do you enjoy most?' is your first question. 'What am I best at?' is your next.

#### **Who can help me decide what to choose?**

Listen to advice from your parents/carers, teachers, friends, older brothers and sisters, but at the end of the day make sure you make the final decision.

Sorry parents/carers, but it is important that a course is picked because the student enjoys the subject. If they are interested in the subject, they will be motivated. Motivation is the key to success.

#### **Am I guaranteed to get the subjects that I choose?**

Unfortunately, if there are not enough students choosing a course, we cannot run it. Therefore, you may not get your first choice. Normally this doesn't happen to many students. It may be the case that two of the subjects you choose have to run on the timetable at the same time and this will mean you will have to choose between them. Again, this doesn't happen often.

- All courses need enough support to run.
- There are limited places in some subjects.
- As a result, we cannot guarantee that students will automatically be given all of their first preferences.
- Information is accurate at the time of writing, but the introduction of new national regulations may mean that amendments need to be made at a later stage.

## **What is the National Picture?**

### **Progress 8:**

To encourage all students to follow a broad curriculum the performance of schools from 2016 will be judged on the progress students make in 8 subjects - including at least 5 EBacc subjects. As a studio school, we have made an active choice that students will only follow a progress 8 suite of qualifications where it is appropriate. Students who wish to follow a Progress 8 compliant curriculum should choose either Computer Science and or Separate Sciences in their Choices.

### **Reformed GCSEs:**

Reformed GCSEs in maths, English language and English literature will be sat for the first time in 2017. Other subjects will be reformed for exams in 2018 or 2019.

### **Vocational Reforms:**

Vocational courses now include at least 25% external assessment.

If I choose a particular pathway, does this mean I will end up having to follow a career in this area?

No, not if you don't want to. Remember it counts as equivalent to a GCSE. Employers, universities and colleges want to know the grades you achieve before knowing what courses you did.

### **First Entry Only:**

To discourage re-sits: where students have more than one attempt at an exam only the first entry can be counted towards a school's performance measures.

### **Assessment Changes:**

Linear exams and SPAG.

### **Why are GCSEs being reformed:**

1. To provide a stronger foundation for further study and employment, keeping pace with the demands of universities and employers.
2. To support students in developing the knowledge, skills and values they need for life in Modern Britain.
3. To match the standards of the best education systems in the world.

### **How will reformed GCSEs be different?**

They will make more demands of students, to help them achieve as much as students in countries with the best education systems.

They will be taken by the same range of students who take GCSEs currently, across a range of abilities.

They will be awarded in grades from 9 to 1, with grade 9 being the highest grade.

5 or above will be the new bench mark.

NEW GCSE GRADING STRUCTURE									
9	8	7	6	5	4	3	2	1	U
					4 and above	3 and above			
					C	D			
CURRENT GCSE GRADING STRUCTURE									
					A*	A	B	C	D
								E	F
								G	U

**GRADES 9 - 1  
SET STATISTICALLY**

Exams will become the default assessment. All exams will be at the end of courses.  
There will only be ability tiers in maths, science and languages.  
There will only be retake opportunities in November (post-Year 11) and only for English and maths.  
Other forms of assessment will only be allowed where essential to assess specific skills (e.g. in art and design or PE).

### The English Baccalaureate

Since 2011 students who achieve A\* - C (9-5) in each of the following areas are recognised as having achieved an EBacc:

GCSE science – core and additional or triple; GCSE English language / literature; GCSE maths; GCSE history or geography; GCSE French or Spanish

\*\*\* Students at Digitech Studio School will not study this suite of qualifications. However, all students can take at least five EBacc GCSEs if this is appropriate for the student.

### Types of Courses

GCSE – Traditional academic focus. Largely exam based but usually includes some controlled assessment.

Vocational - Work related focus. Continuous assessment throughout the course with at least 25% external assessment. Digitech will offer a range of vocational courses. In all cases these are equivalent to one GCSE.

### Levels of Challenge

Level 1 GCSE grades D-G or equivalent. In future grades 4 - 1.

Level 2 GCSE grades A\*-C or equivalent. In future grades 9 - 5.

English / maths booster – A fantastic opportunity to boost English and maths achievement by providing additional time and support.

### What will my curriculum look like?

All students study English Language and Literature, maths and science. Students then choose one subject from each block.

Core	Core	Core	Block A	Block B	Block C	Block D
English Lang	Maths	Combined Science	Creative Digital Media	Art and Design	Photography	IT (CIDA)
English Lit			Graphic Design	PE	Product Design	Creative Digital Media
			Computer Science	Graphic Design	Business & Enterprise	Computer Science
		Separate Sciences (Must be chosen in Block D as well)				Separate Sciences

\*Please see the curriculum page on the website for course details.

### **Important Information**

We do not encourage students to change courses in Year 10. Changes will be at the discretion of the Principal.

## Subject Title: Science

Science Double award or Separate sciences (Triple)?

### Curriculum Overview

We will be using 2016 Specifications by Edexcel

From September 2016, there are 4 GCSE qualifications in science that students can take:

Triple science (3 GCSE's)	Double science (2 GCSE's)
GCSE (9-1) Biology	
GCSE (9-1) Chemistry	GCSE (9-1) Combined Science (Double Award)
GCSE (9-1) Physics	

There will no longer be a single GCSE Science qualification.

There will be a new **9-1** grading system, replacing A\*-G:

**Foundation tier** will cover grades 1-5

**Higher tier** will cover grades 4-9.

There are **no controlled assessments** in the new qualifications. Ofqual will announce how practical skills will be assessed soon.

Questions assessing students' use of **mathematical skills** will make up 15% of the assessments. There will also be some recall of equations required in physics.

All students whether double or Triple will:

- develop scientific knowledge and conceptual understanding through the specific disciplines of Biology, Chemistry and Physics
- develop understanding of the nature, processes and methods of science, through different types of scientific enquiries that help them to answer scientific questions about the world around them
- develop and learn to apply observational, practical, modelling, enquiry and problem-solving skills in the laboratory, in the field and in other learning environments
- develop their ability to evaluate claims based on science through critical analysis of the methodology, evidence and conclusions, both qualitatively and quantitatively.

### How are Double and Triple different?

#### Double

There are 6 exam papers at the end of year 11, 2 papers for biology, chemistry and physics, each will be 1 hour 10mins long and worth 16.7% of final grade, they will get a double award (worth 2 GCSEs)

#### Triple

Triple students sit 2, 1 hour 45mins exam papers for each science discipline each exam paper is worth 50% to the final grade of each separate GCSE, biology, chemistry and physics.

Biology topics:

Topic 1 – Key concepts in biology

Topic 2 – Cells and control

Topic 3 – Genetics

Topic 4 – Natural selection and genetic modification

Topic 5 – Health, disease and the development of medicines

Topic 6 – Plant structures and their functions

Topic 7 – Animal coordination, control and homeostasis

Topic 8 – Exchange and transport in animals

Topic 9 – Ecosystems and material cycles

*Within topics there is areas only for triple science students (T)*

#### Biology Practical work:

Investigate biological specimens using microscopes, including magnification calculations and labelled scientific drawings from observations

Investigate the effect of pH on enzyme activity

Investigate the use of chemical reagents to identify starch, reducing sugars, proteins and fats (T)

Investigate osmosis in potatoes

Investigate the effects of antiseptics, antibiotics or plant extracts on microbial cultures (T).

Investigate the effect of light intensity on the rate of photosynthesis

Investigate the rate of respiration in living organisms

Investigate the relationship between organisms and their environment using field-work techniques, including quadrats and belt transects

#### Chemistry topics:

Topic 1 – Key concepts in chemistry

Topic 2 – States of matter and mixtures

Topic 3 – Chemical changes

Topic 4 – Extracting metals and equilibria

Topic 5 – Separate chemistry 1 (T)

Topic 6 – Groups in the periodic table

Topic 7 – Rates of reaction and energy changes

Topic 8 – Fuels and Earth science

Topic 9 – Separate chemistry 2 (T)

*Topics 5 and 9 are for triple only (T)*

#### Chemistry Practical work:

Investigate the composition of inks using simple distillation and paper chromatography

Investigate the change in pH on adding powdered calcium hydroxide or calcium oxide to a fixed volume of dilute hydrochloric acid

Investigate the preparation of pure, dry hydrated copper sulfate crystals starting from copper oxide including the use of a water bath

Investigate the electrolysis of copper sulfate solution with inert electrodes and copper electrodes

Carry out an accurate acid-alkali titration, using burette, pipette and a suitable indicator

Investigate the effects of changing the conditions of a reaction on the rates of chemical reactions.

Identify the ions in unknown salts, using the tests for the specified cations and anions (C)

Investigate the temperature rise produced in a known mass of water by the combustion of the alcohols ethanol, propanol, butanol and pentanol (T)

### Physics topics:

- Topic 1 – Key concepts of physics
- Topic 2 – Motion and forces
- Topic 3 – Conservation of energy
- Topic 4 – Waves
- Topic 5 – Light and the electromagnetic spectrum
- Topic 6 – Radioactivity
- Topic 7 – Astronomy (T)
- Topic 8 – Energy - Forces doing work
- Topic 9 – Forces and their effects
- Topic 10 – Electricity and circuits
- Topic 11 – Static electricity (T)
- Topic 12 – Magnetism and the motor effect
- Topic 13 – Electromagnetic induction
- Topic 14 – Particle model
- Topic 15 – Forces and matter

*Some content within the other topics is for (T) triple science students only*

### Physics Practical work

- Investigate the relationship between force, mass and acceleration by varying the masses added to trolleys.
- Investigate the suitability of equipment to measure the speed, frequency and wavelength of a wave in a solid and a fluid.
- Investigate refraction in rectangular glass blocks in terms of the interaction of electromagnetic waves with matter Investigate how the nature of a surface affects the amount of thermal energy radiated or absorbed. (T)
- Construct electrical circuits to: investigate the relationship between potential difference, current and resistance for a resistor and a filament lamp and to test series and parallel circuits using resistors and filament lamps.
- Investigate the densities of solid and liquids.
- Investigate the properties of water by determining the specific heat capacity of water and obtaining a temperature-time graph for melting ice.
- Investigate the extension and work done when applying forces to a spring.

## **Qualification: GCSE Art and Design**

**Exam Board: WJEC**

### **What are the main topics I will study for this qualification?**

The qualification features a wide range of skills including Art, Craft and Design, Fine Art, Graphic Communication and Photography. Students work to their strengths and follow a skills based program of study in year 10 and use this experience to produce personal projects in year 11.

### **How will I be assessed in the subject?**

Component 1: Portfolio; A sustained project developed in response to a subject, theme, task or brief evidencing the journey from initial engagement with an idea(s) to the realisation of intentions. This will give students the opportunity to demonstrate, through an extended creative response, their ability to draw together different areas of knowledge, skills and/or understanding from across their course of study.

Component 2: Externally set assignment; The externally set assignment provides students with the opportunity to demonstrate, through an extended creative response, their ability to draw together different areas of knowledge, skills and/or understanding in response to their selected starting point. The extended creative response must explicitly evidence students' ability to draw together different areas of knowledge, skill and/or understanding from initial engagement with their selected starting point through to their realisation of intentions in the 10 hours of supervised time.

### **Am I suited to GCSE Art and Design?**

The ability to draw and continue to develop drawing skills is a core part of the course. Other skills and techniques including graphic art and digital art are also core skills which might allow a student to explore other creative responses.

### **What current students say about the qualification?**

"Art is really good as you can express yourself without being wrong. It is a very broad subject and you learn about lots of different styles of Art." Year 10 GCSE Art and Design Student.

## Qualification: (Business) Cambridge Nationals in Enterprise and Marketing Level 2

**Exam Board: OCR**

**Age requirement** 14-16

Are you keen to learn the secrets of the SUCCESS of major brands such as Nike or CocaCola? Cambridge Nationals in Enterprise and Marketing looks behind the scenes at what is involved in running a successful business. You will examine all aspects of the business world and develop a wide knowledge of the challenges currently facing firms.

### What are the main topics I will study for this qualification?

All learners will study three mandatory topics as follows:

#### Unit Enterprise and marketing concepts written exam - 50% :

You will develop essential knowledge and understanding of enterprise and marketing concepts, which can be applied to the other units within the qualification

#### Design a business proposal- coursework - 25%

You will develop the skills to design a business proposal to meet a specific business challenge. This will include identifying a customer profile for a specific product, complete market research to generate product design ideas, and use financial calculations to propose a pricing strategy and determine the viability of your product proposal

#### Market and pitch a business proposal coursework - 25%.

You will develop the skills to create a brand identity and promotional plan for your specific business product proposal developed in the second topic. You will then pitch your business proposal to an external audience

### How will I be assessed in the subject?

This course consist of 1 external exam and 2 internally and OCR moderated assignments

<b>Unit R064: Enterprise and marketing concepts</b>	<b>Unit R065: Design a business proposal</b>	<b>Unit R066: Market and pitch a business proposal</b>
1 hour written examination 60 marks This question paper has two parts: <ul style="list-style-type: none"><li>• Part A - 20 multiple choice questions</li><li>• Part B –written responses</li></ul>	OCR-set assignment Centre assessed and OCR moderated	OCR-set assignment Centre assessed and OCR moderated
<b>You may re-sit the exam once.</b>		

### What current students say about the qualification?

“This course has enabled me to develop the skills and knowledge needed to understand how businesses work and operate in a practical way”

### Am I suited to in Enterprise and Marketing?

This qualification is designed for learners who want an introduction to business and enterprise that includes a vocational and hands-on element. It has been developed to enthuse and inspire learners about a career in business and enterprise. The qualification will appeal to learners who wish to either set up their own business, move into employment or progress onto further study

## **GCSE Computer Science**

**Awarding body**      OCR

### **Course outline**

GCSE Computer Science develops the understanding and application of the fundamental principles and concepts of Computer Science, including abstraction, decomposition, logic, algorithms, and data representation. It encourages students to analyse problems in computational terms through practical experience of solving such problems, including designing, writing and debugging computer programs. It allows students to think creatively, innovatively, analytically, logically and critically; students will study the components that make up digital systems, and how they communicate with one another and with other systems. All this is within the context of understanding the impacts of digital technology to the individual and to wider society.

### **Assessment**

Assessment consists of two papers, one focusing on the theory of Computer Science and one with a focus on programming and algorithms. Both papers have identical weighting and mark allocations (40% each towards the final mark). In the final year, the students complete a programming project that is assigned by the board; this is coursework (20% of final mark)

### **Am I suited to Computer Science?**

Students who are successful at Computer Science tend to be very interested in computers and computer technology; they might like to build their own PC, and would enjoy experimenting with programming languages and hardware. A key element of computer science is the desire to solve problems, which quite often have an element of mathematics or logic.

### **Where will this take me?**

A GCSE in Computer Science is one of the first building blocks to a career in the software or wider IT industries; you could proceed to an A Level in Computer Science or a Level 3 IT or Games Design course. Well qualified computer programmers are amongst some of the most highly paid professionals in the UK.

## **Qualification: GCSE Graphics**

### **Exam Board: WJEC**

#### **What are the main topics I will study for this qualification?**

A large part of the course is a practical investigation into the techniques and materials used in the advertising and packaging we see around us every day. You will develop skills in drawing, both, free hand and using computer aided design; model making, printing techniques, logo designing, greetings card and popup book design, and build up skills to design DVD covers, labels, and posters. Students work to their strengths and follow a skills based program of study in year 10 and use this experience to produce personal projects in year 11.

#### **How will I be assessed in the subject?**

Students will complete a major project and portfolio developed in response to a subject, theme, task or brief evidencing the journey from initial engagement with an idea(s) to the realisation of intentions. Previous projects have included; creating a popup book; producing promotional material for the Olympics; designing the identity and packaging for a new band, and making a travel game for children.

Externally set assignment by the Exam board provides students with the opportunity to demonstrate, through an extended creative response, their ability to draw together different areas of knowledge, skills and/or understanding in response to their selected starting point.

#### **Am I suited to GCSE Graphics?**

If you are interested in the world of advertising; like developing logos and posters; have an interest in the covers of DVDs, books, and games, and really enjoy making products, then this is the course for you.

#### **What current students say about the qualification?**

“Graphics lets me experience designing products that I see all the time. I love being creative and so this is perfect for me” Year 11 GCSE Graphics Student.

Qualification: Cambridge Nationals in ICT Level 2

Exam Board: OCR

Age requirement 14-16

This qualification offers a practical and engaging approach to learning and assessment. It will equip learners with sound ICT skills for everyday use and also allow them to develop their creative flair when creating interactive and dynamic products using ICT. There are two mandatory units which explore the fundamentals of ICT, and two optional units

### **What are the main topics I will study for this qualification?**

**Unit 1: Understanding Computer Systems** This unit gives students a solid base to develop knowledge and understanding of computer systems. Assessment: 1 hour written paper

**Unit 2: Using ICT to Create Business Solutions** This unit will enable learners to develop ICT skills that will equip them to operate effectively in a business environment. Learners will use a wide range of applications to complete an assignment set by the exam board and completed during lessons. Assessment: Internally assessed by college and moderated by OCR

**Optional Units Two optional units will also be completed.** These units allow students to show their creative talents by creating a dynamic product for the web and an interactive product using multimedia components. For both units, the learners will spend time in lessons completing an assignment which is set by the exam board. Assessment: Internally assessed by college and moderated by OCR

### **How will I be assessed in the subject?**

This course consist of 1 external exam and 3 internally and OCR moderated assignments  
Graded as Pass, Merit, Distinction or Distinction\* (Equivalent to GCSE C, B, A or A\*).

### **Am I suited to in ICT?**

You will enjoy this course if you want to study a subject that:

- is relevant to the world you live in, and to your future;
- takes a practical approach;
- Spreads the coursework load over the duration of the course.

### **What current students say about the qualification?**

“This course has enabled me to develop the skills and knowledge in ICT in a fun practical way”

**Qualification: Cambridge National iMedia**  
**Exam Board: OCR**

**What are the main topics I will study for this qualification?**

You will study a total of four units covering pre-production and planning, creating digital graphics, digital photography and creating a digital video sequence.

**How will I be assessed in the subject?**

Most of the qualification is tested by coursework that's set and marked by your teacher. This will be done throughout the two-year course. So if you like project work, enjoy research and doing practical things they may find a Cambridge National a better option than a GCSE.

One of the units that students must take – on pre-production skills – involves a written exam that lasts one hour and 15 minutes and is set and marked by the exam board.

**Am I suited to BTEC Media?**

Film, making, still photography and digital graphics form the core of this qualification so a keen interest in these areas are a must. If you like working on practical creative projects this qualification is for you. You must be prepared to work hard and collaborate in teams, as well as working on your own projects. Using technology goes hand in hand with creating digital media products. You don't need to have any previous experience, however patience and a willingness to learn through hands on practical activities is a must.

**What current students say about the qualification?**

In our first lesson we started using Photoshop and merged together two peoples faces using some of the advanced tools– it was really fun!” – Year 10 Student.

**Vocational Links**

All of the units are assessed by work related briefs, and we engage with employers in the Media sector to help you gain an understanding of real world professional practice.

## **Qualification: GCSE Photography**

**Exam Board: WJEC**

### **What are the main topics I will study for this qualification?**

You will be introduced to a variety of experiences exploring a range of lens-based and light-based media, techniques and processes, including both traditional and new technologies. In particular, you will:

- Learn about lots of different styles of photography (Portrait, still life, surrealism, Landscape).
- Learn how to use digital SLR cameras (Nikon and Pentax).
- Learn how to use the manual settings (shutter speed, aperture etc)
- Learn how to use Photoshop.
- Learn how to use studio equipment / lighting.
- Research and analyse other photographers work and what the images may mean and to take inspiration.
- From their work to develop your own work.
- Learn how to explore and experiment with your own ideas.

### **How will I be assessed in the subject?**

#### **Component 1 Portfolio 60%**

Must include one independent extended project  
Marked out of 4 assessment objectives – 96 marks

#### **Component 2 Externally Set Assignment 40%**

Students respond to their chosen starting point from an externally set assignment paper relating to their subject title, evidencing coverage of all four assessment objectives.

Preparatory period followed by 10 hours of supervised time

Marked out of 4 assessment objectives – 96 marks

### **Am I suited to GCSE Photography?**

This course will suit students who have an interest in creativity and who want to pursue a career in the creative industry. This course will enable students to go onto study an A level in Photography or other creative subject.

### **What current students say about the qualification?**

“Photography is great as you get to express yourself in your work. You also explore a range of techniques when using the camera. I also loved the trip to Lacock Abbey.” Year 10 GCSE Photography Student

### **Vocational Links**

Documentary photography and journalism, portrait photography, wedding photography, art direction, film-making, animation, fashion photography, illustrator, artist, television camera-operator, graphic designer, magazine features editor, medical illustrator, press photographer.

## **Qualification: GCSE Physical Education**

**Exam Board: Edexcel**

### **What are the main topics I will study for this qualification?**

GCSE Physical Education provides the knowledge, understanding, skills and values needed to be able to develop and maintain performance in physical activities. You will also gain understanding of how physical activities benefit health, fitness and well-being. There are four key units:

#### Unit 1: Fitness and Body System

Applied Anatomy and Physiology, Movement Analysis, Physical Training, Use of Data.

#### Unit 2: Health and Performance

Health, Fitness and Well-Being, Sport Psychology, Socio-Cultural Influences, Use of Data.

#### Unit 3: Practical Performance

Three Physical Activities (1 Team, 1 Individual and 1 Free Choice)

#### Unit 4: Personal Exercise Programme (PEP)

### **How will I be assessed in the subject?**

Unit 1: Fitness and Body System – written exam – 36%

Unit 2: Health and Performance – written exam – 24%

Unit 3: Practical Performance – practical assessment - 30%

Unit 4: Personal Exercise Programme (PEP) – coursework - 10%

### **Am I suited to GCSE Physical Education?**

Are you

- Passionate about sport?
- Driven to find out how you can improve your performance?
- Interested in how our bodies push themselves to their physical peak?
- Then take GCSE PE!

### **What current students say about the qualification?**

“The practical side of PE is awesome! It is great learning about how the body works and then putting it into a practical lesson.” Year 10 GCSE PE Student

“GCSE PE has been an excellent way for me to use a variety of skills I have outside of the classroom. I am practically very good at sport and this has helped me but I have also found that the theory side of the subject is just as interesting. I am now looking to progress into a performance analysis career having enjoyed this topic in GCSE PE”. Year 11 GCSE PE Student

### **Vocational Links**

Sports coaching, personal training

## **Qualification: GCSE Product Design**

## **Exam Board: AQA**

### **What are the main topics I will study for this qualification?**

You will be able to design and make products with creativity and originality, using a range of materials and techniques. You will study the products we buy in the high street and investigate how they are designed, manufactured and sold. Typical major projects might involve the production of jewellery, furniture, clothes and aids to help the elderly or people with a disability.

The course is split into two units:

Unit 1: Written Paper

- Materials and Components
- Design and Market Influences
- Processes and Manufacture

Unit 2: Design and Making Practice (Completing a project of your choice from a range of subject boards)

### **How will I be assessed in the subject?**

Unit 1: Written Paper – Examination – 40%

Unit 2: Design and Making Practice – Controlled Assessment (a precise design folder which explains the problem you have chosen to look into from the research you undertake to the manufacture of a prototype or scale model of your design). – 60%

### **Am I suited to GCSE Product Design?**

This course will particularly suit those students considering career paths in Engineering, Product Design, Interior Design, Architecture or those thinking of moving on to Apprenticeships.

### **What current students say about the qualification?**

“Product Design is fun and creative. You get to choose the product you want to develop. Creating the prototypes has been great as you can see if your idea works” Year 10 GCSE Product Design Student.