

Cambridge **TECHNICALS LEVEL 2**

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DIGITAL MEDIA

Unit 1

Digital media and emerging technologies

J/616/9367

Guided learning hours: 60

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LEVEL 2

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Guided learning hours: 60

Essential resources required for this unit: None

This unit is externally assessed by an OCR set and marked examination.

UNIT AIM

The digital world is ever changing and digital technologies come and go, but some develop and emerge into new technologies.

The aim of this unit is for you to investigate new and emerging digital technologies. Digital media producers are now using emerging technologies to distribute and enhance the way an audience consumes a product. For example, films are being made in virtual reality, which allow an audience to make their own decisions whilst watching a film, as they are fully embedded into the 360-degree environment. Smaller, smarter and less expensive media equipment is being used to give a different perspective for the filmmaker, such as first-person view. The way we all use these technologies is changing. Content, as well as being produced by media producers, can now be user generated. However, using these technologies also requires knowledge of the regulatory and ethical constraints, as well as being aware of health and safety considerations.

You will also investigate how these technologies are used by media producers to market and promote products, as well as providing the opportunity for consumers to assess and review them. You will investigate how digital content is accessed across a range of platforms and devices.

TEACHING CONTENT

The unit content describes what has to be taught to ensure that learners are able to access the highest grade.

Anything which follows an i.e. details what must be taught as part of that area of content.

Anything which follows an e.g. is illustrative.

Where teaching content contains i.e. and e.g. under specific areas of content, the following rules will be adhered to when we set questions for an exam:

- A direct question may be asked about teaching content which follows an i.e.
- Where unit content is shown as an e.g. a direct question will not be asked about that example.

	Learning Outcome The Learner will:		Teaching Content The Learner must be taught:		Teaching exemplification
1	Know the digital media technologies, hardware and software that are used in media product generation	1.1	Characteristics and uses of different types of digital media hardware i.e. <ol style="list-style-type: none"> 1. gaming consoles i.e. <ol style="list-style-type: none"> a. PlayStation b. X Box c. Nintendo d. hand held consoles 2. Smart technologies i.e. <ol style="list-style-type: none"> a. mobile b. TV c. tablet d. projector e. DVD players f. Smart Home devices (e.g. Alexa, HIVE) 3. Virtual Reality (VR) headsets i.e. <ol style="list-style-type: none"> a. Oculus Rift b. Samsung Gear VR c. Google Cardboard 4. digital cameras, their related technology and how they have evolved i.e. <ol style="list-style-type: none"> a. Go Pro b. IMAX 	1.1	<p>Learners will know how different types of hardware are used and how their characteristics within the media production environment have changed with the emergence of new digital technologies.</p> <p>Learners will know the different types of hardware used within the production process. Exploration of such films as those made entirely with Go Pro cameras, e.g. 'Hardcore Henry', as well as the use of Drones in media productions such as 'Skyfall', and how they have changed the dynamics of film making.</p> <p>Learners should explore how digital technologies have enabled a more immersive audience experience, by allowing an audience to have a virtual reality experience.</p>

	Learning Outcome The Learner will:	Teaching Content The Learner must be taught:	Teaching exemplification
		<ul style="list-style-type: none"> c. video cameras, i.e. <ul style="list-style-type: none"> i. DV tape ii. SD iii. HD iv. AVCHD d. digital still cameras, i.e. <ul style="list-style-type: none"> i. compact ii. bridge iii. DSLR 5. Drone i.e. <ul style="list-style-type: none"> a. consumer (i.e. DJI Mavic Pro, Zerotech Dobby) b. professional (i.e. DJI Inspire 4K, Yi Erida) 6. digital tools for accessibility (e.g. eSight, Google Class, OrCam) 	<p>Learners will know how digital technologies can enhance audience accessibility, such as eSight, Google Glass and OrCam to access media products.</p>
	1.2	<p>Characteristics and uses of different types of software i.e.</p> <ul style="list-style-type: none"> 1. Augmented Reality (AR) software and how it is used in digital media products i.e. <ul style="list-style-type: none"> a. Zapworks b. Unity c. libGDX d. Pokemon Go e. Zombies f. Run! Geocaching g. Ikea Place h. Play Chaser 2. VR, Three-Dimensional (3D) and Mixed Reality (MR) software and how it is used in the creation of digital media products i.e. <ul style="list-style-type: none"> a. Unreal Engine b. Unity 3D c. Blender d. Windows Mixed Reality 	<p>1.2</p> <p>Learners should know the use of emerging software, which is used with hardware explored in 1.1.</p> <p>Learners should know games consoles which make use of VR, such as PS4 Star Trek Bridge Crew, as well as smart phone devices which use AR apps to engage the audience. Learners could also explore the Microsoft Holo Lens which enables users to immerse themselves in MR.</p> <p>Learners should know how software allows its users to generate their own media products, such as Moviestorm for 3D animated films, Soundtrap for audio, Canva for image editing and Sploder for video game design.</p>

	Learning Outcome The Learner will:	Teaching Content The Learner must be taught:	Teaching exemplification
		<ol style="list-style-type: none"> 3. video/photo/audio editing software that is available for User Generated Content (UGC) i.e. <ol style="list-style-type: none"> a. Moviestorm b. Moovly c. Frameforge d. Soundtrap e. Audiotool f. Soundation g. Canva h. Vectr i. Snappa j. Sploder k. Gamemaker3D l. Ceilfire 4. Computer Generated Imagery (CGI) i.e. <ol style="list-style-type: none"> a. Green/Blue Screen technology b. Chromakeying c. virtual actors 	<p>Learners should know how the use of software and hardware enables both media producers and its audience to produce media products using easily accessible video/photo/audio software.</p> <p>The role of CGI has had a tremendous impact on the production of media texts. Learners should investigate how Green Screen technology is used, as well as CGI in film and TV. Example films to look at are 'London Has Fallen', the Jurassic Park franchise, Beauty and the Beast, Avatar. CGI has also seen the development of virtual actors, such as Stuart Little.</p>
	1.3	<p>Consideration of personal responsibilities when using digital hardware and software technologies i.e.</p> <ol style="list-style-type: none"> 1. compliance with legislation when using hardware and software i.e. <ol style="list-style-type: none"> a. privacy b. permissions c. downloading d. licensing 2. ethical considerations i.e. <ol style="list-style-type: none"> a. misrepresentation b. defamation c. cyber bullying 3. E Safety i.e. <ol style="list-style-type: none"> a. privacy settings b. personal data 4. health and safety requirements i.e. <ol style="list-style-type: none"> a. risk assessments 	<p>1.3</p> <p>Learners should know areas of legislation and personal responsibility when creating media products. For example:</p> <ul style="list-style-type: none"> • Hardware technologies, such as those explored in 1.1. • Copyright and Creative Commons licensing. • Whether UGC is ethical, whether it misrepresents something or whether the created material could cause offense.

	Learning Outcome The Learner will:	Teaching Content The Learner must be taught:	Teaching exemplification
		<ol style="list-style-type: none"> 5. work place protocols i.e. <ol style="list-style-type: none"> a. use of social media b. microblogging c. work place etiquette 6. taking care of equipment i.e. <ol style="list-style-type: none"> a. safe storage i.e. <ol style="list-style-type: none"> i. hard storage case ii. foam interiors/spacers b. cleaning i.e. <ol style="list-style-type: none"> i. microfiber cloths ii. brushes c. maintenance i.e. <ol style="list-style-type: none"> i. camera lenses ii. sensor 	<ul style="list-style-type: none"> • The implications of downloading software, and the legal and ethical considerations with regard to this. <p>Consideration should be given to the concept of E Safety when using microblogging sites, ensuring that learners have a full knowledge of privacy settings and the use of their personal data.</p> <p>The use of online applications such as social media and microblogging sites should be considered as to whether it is permissible to use in the workplace.</p> <p>When using hardware equipment, learners should know how to use the equipment safely.</p> <p>Learners should know what needs to be done to maintain hardware equipment. For example, learners should know how to remove lenses from camera equipment safely and how to keep lenses dust free and know how to clean them.</p>

	Learning Outcome The Learner will:		Teaching Content The Learner must be taught:		Teaching exemplification
2	Know the purpose for digital media product development and its use of emerging technology	2.1	<p>Purpose of different types of digital media products i.e.</p> <ol style="list-style-type: none"> 1. inform i.e. <ol style="list-style-type: none"> a. documentaries 2. educate i.e. <ol style="list-style-type: none"> a. tutorials 3. entertain i.e. <ol style="list-style-type: none"> a. films b. TV c. games 4. promote i.e. <ol style="list-style-type: none"> a. trailers b. posters c. jingles d. pop ups e. banners 	2.1	<p>Learners should know the different types of digital media products, their characteristics and purposes.</p>
		2.2	<p>The purposes and different technologies used for User Generated Content (UGC) digital media products i.e.</p> <ol style="list-style-type: none"> 1. purposes: <ol style="list-style-type: none"> a. self-expression i.e. <ol style="list-style-type: none"> i. personal values ii. opinions iii. reviews iv. blogs v. report b. self-empowerment i.e. <ol style="list-style-type: none"> i. personal fame ii. perceived competence iii. desire for control iv. citizen journalism c. self-promotion i.e. <ol style="list-style-type: none"> i. creative and technical skills ii. short films iii. tutorials iv. games 	2.2	<p>Learners should know the purpose of user generated content and how it can be used for self-expression, self-empowerment and self-promotion; e.g. the use of citizen journalism in reporting news, using blogs to share opinions and values.</p> <p>Learners should know how the different products created are reached by consumers, and how UGC is used to promote media products.</p> <p>UGC has been used in brand marketing campaigns. Learners could look at the 'Create your own pony' campaign produced by the mobile phone company Three.</p>

		<ul style="list-style-type: none"> v. creative content d. UGC marketing campaigns i.e. <ul style="list-style-type: none"> i. UGC content in branded marketing 2. Types and characteristics of technologies i.e. <ul style="list-style-type: none"> a. microblogging i.e. <ul style="list-style-type: none"> i. Twitter ii. Instagram iii. Facebook iv. Pownce v. tumblr b. sharing Websites i.e. <ul style="list-style-type: none"> i. YouTube ii. Vimeo iii. Flickr iv. Pinterest c. online software applications i.e. <ul style="list-style-type: none"> i. audio visual ii. audio iii. gaming iv. print media products 	<p>Learners should know the different types of technologies which are used to generate content for their specific purposes.</p> <p>Learners should know the character count allowable for microblogging sites and the type of content which can be embedded.</p> <p>Learners should also know file formats, file sizes and allowable content on sharing websites and for uploading to online software applications.</p>
	<p>2.3</p>	<p>Different types and characteristics of digital media products made by media producers (including interactive products) i.e.</p> <ul style="list-style-type: none"> 1. audio visual i.e. <ul style="list-style-type: none"> a. films b. TV series c. advertisements d. trailers e. vlog 2. audio i.e. <ul style="list-style-type: none"> a. audio books b. music tracks c. podcasts d. jingles 3. visual i.e. <ul style="list-style-type: none"> a. graphics b. photos c. billboards 	<p>2.3</p> <p>Exploration of the different products produced by media organisations using new and emerging digital technologies will help learners to know how the gap is closing between UGC and Media organisations. For example, products produced by media organisations, can now be produced by active consumers, if they choose to. However, there is still a role for the media producers as there will always be an audience who will be passive consumers. Learners should also look at how media organisations use the Internet to further engage their audience.</p>

			<ol style="list-style-type: none"> 4. print i.e. <ol style="list-style-type: none"> a. eBooks b. posters c. magazines d. newspaper e. flyers 5. video Games i.e. <ol style="list-style-type: none"> a. mini games b. AR games c. console games d. smart device games e. computer games 6. internet i.e. <ol style="list-style-type: none"> a. websites b. social media c. sharing websites 		
		2.4	<p>How consumers interact with digital media products i.e.</p> <ol style="list-style-type: none"> 1. social film i.e. <ol style="list-style-type: none"> a. interactive film using social media networks 2. online publications i.e. <ol style="list-style-type: none"> a. interactive magazines 3. second screen i.e. <ol style="list-style-type: none"> a. feedback through smart device apps 	2.4	<p>Learners should know how social film is produced by media organisations with collaborative interactive input by users. Social film such as 'Inside' and 'What Lives Inside' are good examples.</p> <p>Learners should be familiar with online publications such as Time magazine, which include interactive content.</p> <p>Learners should look at how consumers interact through the use of a second screen with TV programmes such as X Factor, BGT and I'm a Celebrity, Get Me Out of Here!</p>

3	Know how emerging digital technologies impact the production of media products and the effect of their use on the consumer	<p>3.1 The impact of emerging technologies on the production of media products i.e.</p> <ol style="list-style-type: none"> 1. financial implications i.e. <ol style="list-style-type: none"> a. reduction of costs 2. operational structures i.e. <ol style="list-style-type: none"> a. professional/consumer production 3. diversification of skillsets i.e. <ol style="list-style-type: none"> a. additional and varied skills, multi skilled, skills for cross platforms) 4. changing media products i.e. <ol style="list-style-type: none"> a. physical to digital (e.g. CD/DVD to streaming digital media products) b. time-shifting content (e.g. On demand) c. TV channels (e.g. niche content) 	<p>3.1 Learners should know how the use of digital and emerging technologies have impacted on the Creative Media sector.</p> <p>Learners should look at how digital media production costs have changed, as well as the ability of the consumer to have the same access as professionals to providing digital media content.</p> <p>Learners will need to look at how skillsets have diversified, particularly the changes which have occurred in advertising and marketing.</p> <p>Media products have evolved as a result of digital technologies and learners should look at the changes in access to products such as music, print, games, TV and film.</p>
		<p>3.2 The impact of product usability i.e.</p> <ol style="list-style-type: none"> 1. for a range of user experiences i.e. <ol style="list-style-type: none"> a. social media b. Smart TV c. AR and VR applications d. MMORPG 2. for online personas (e.g. online and offline personalities) 3. on individuals i.e. <ol style="list-style-type: none"> a. positive effects <ol style="list-style-type: none"> i. cognitive process ii. achievement of goals iii. overcome language barriers iv. team work and interaction b. negative effects i.e. <ol style="list-style-type: none"> i. impact on health; physical, mental and social health i.e. 	<p>3.2 Learners should look at the user experience of using new and emerging digital technologies.</p> <p>For example, learners could look at the positive and negative effects of using digital media products, in particular the use of social media, VR and AR applications and online gaming.</p> <p>Learners could also consider how consumers behave online and its impact on offline behaviour.</p>

			<ul style="list-style-type: none"> a. internet addiction disorder b. nausea and vomiting c. information overload d. lack of physical exercise 		
4	Know how advertising and marketing techniques have changed as a result of digital and emerging technologies	4.1	<p>Changes in advertising and marketing techniques i.e.</p> <ol style="list-style-type: none"> 1. traditional methods of advertising and marketing i.e. <ul style="list-style-type: none"> a. billboards b. vehicle wrapping c. TV and radio advertising d. print advertising e. theatrical and teaser trailers 2. digital methods of advertising and marketing <ul style="list-style-type: none"> a. above the line techniques i.e. <ul style="list-style-type: none"> i. digital methods ii. the use of social media iii. websites iv. QR Codes v. viral marketing campaigns b. below the line techniques i.e. <ul style="list-style-type: none"> i. personalised marketing (e.g. emails, Push/Pull marketing, tracking cookies, targeted advertising) 3. how synergy is used for advertising and marketing i.e. <ul style="list-style-type: none"> a. cross platform marketing, embedded feeds 	4.1	<p>The way media products are advertised and marketed has enabled the Creative Media sector to have a vast array of digital and emerging technologies at hand.</p> <p>Learners should look at a range of advertising and marketing campaigns, historical and contemporary, which reflect traditional above the line and below the line techniques.</p> <p>Learners should also consider the use of cross platform marketing and how this can be used to maximise the potential of an advertising and marketing campaign.</p>
		4.2	<p>How AR is used in advertising i.e.</p> <ol style="list-style-type: none"> 1. holographic advertising is used i.e. <ul style="list-style-type: none"> a. virtual assistants in airports b. holographic fashion shows c. virtual make up d. magic mirror 2. hyperlocal advertising i.e. <ul style="list-style-type: none"> a. shops b. cafes c. theatres appropriate to users' locations d. known interests 	4.2	<p>Learners should look at how AR in the form of holograms is used in advertising.</p> <p>Learners should investigate the use of AR for consumers to locate recreational and consumer areas by accessing hyperlocal advertising.</p> <p>Learners could look at the use of AR apps provided by organisations, such as</p>

		<ol style="list-style-type: none"> 3. interactive advertising i.e. <ol style="list-style-type: none"> a. AR apps allowing consumer interaction (e.g. virtual showrooms) 	<p>IKEA, which allow consumer interaction.</p>
	<p>4.3</p>	<p>How markets are developing i.e.</p> <ol style="list-style-type: none"> 1. global reach i.e. <ol style="list-style-type: none"> a. 24/7 b. worldwide c. platforms used to purchase media products i.e. <ol style="list-style-type: none"> i. app stores ii. online music iii. streaming services 2. cultural sensitivities i.e. <ol style="list-style-type: none"> a. geoblocking b. diversity c. heritage d. language 3. how Living Services may impact advertising and marketing (e.g. individualising, instant information, blurring of boundaries) 4. how the Internet of Things will impact consumer activities (e.g. connected network of devices) 	<p>4.3</p> <p>Learners should explore the global reach of online platforms to purchase media products. Digital media products are available 24/7 and to a worldwide global market. The consumer can access what they want, and when they want. Whilst digital technology continues to emerge, the way that consumers buy, and media producers advertise, will inevitably change.</p> <p>When creating digital media products, learners should recognise the importance of cultural sensitivities being considered. Learners should know the importance of using appropriate language and of respecting heritage and diversity of different cultures in the creation of digital media products. Learners should also explore which countries are or have been ‘geoblocked’ and what this means.</p> <p>Learners should explore emerging technologies and their impact on the consumer. Emerging digital technologies will evolve to provide ‘Living Services’ which will change how branding and advertising will be delivered. Together with the ‘Internet of Things’, the way we consume, purchase and access media products will be available to us instantly.</p>

5	Know about platforms, file formats and methods for distributing digital media products	5.1	Platforms for distribution i.e. <ol style="list-style-type: none"> 1. online platforms i.e. <ol style="list-style-type: none"> a. websites b. blogs c. apps d. multimedia 2. physical platforms i.e. <ol style="list-style-type: none"> a. CD/DVD b. kiosks c. interactive TV d. mobile devices 	5.1	Learners should know the backend technologies which enable the distribution of digital media products. Digital media products have to be accessed. There are many platforms for distribution of these products.
		5.2	File formats and properties for distribution i.e. <ol style="list-style-type: none"> 1. audio visual, audio, print, internet i.e. <ol style="list-style-type: none"> a. MOV/AVI/MP4/WMV b. WAV/MP3/AIFF c. TIFF/JPEG/PNG/GIF d. HTML/ePub/PDF/CSS/JavaScript 2. compression techniques i.e. <ol style="list-style-type: none"> a. Lossy b. Lossless 3. quality, dimensions and resolutions i.e. <ol style="list-style-type: none"> a. SD b. HD ready c. FULL HD d. Ultra HD e. 4K f. IMAX g. 8K h. 3D 	5.2	Learners should be taught the different types of files formats and properties used to distribute different digital media products, over the different platforms. They should explore how file formats can affect the quality of digital media products, and how this can be overcome with compression techniques.

		<p>5.3 Distribution methods i.e.</p> <ol style="list-style-type: none"> 1. mobile connectivity access i.e. <ol style="list-style-type: none"> a. 3G b. 4G c. Wi-Fi d. contactless <ul style="list-style-type: none"> ▪ radio-frequency identification ▪ near field communication 2. internet connectivity speeds and access i.e. <ol style="list-style-type: none"> a. broadband fibre optic b. cable c. MiFi d. Bluetooth e. Satellite f. dial up modem g. ASDL h. ISDN 	<p>5.3 Emerging digital technologies allow for consumers and media producers to be able to access media products anywhere and at any time. Learners should know the different distribution methods and properties to allow access to media products.</p>
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LEARNING OUTCOME (LO) WEIGHTINGS

Each learning outcome in this unit has been given a percentage weighting. This reflects the size and demand of the content you need to cover and its contribution to the overall understanding of this unit. See table below:

LO1	23-27%
LO2	16-20%
LO3	14-18%
LO4	23-27%
LO5	14-18%

ASSESSMENT GUIDANCE

All Learning Outcomes are assessed through an externally set and marked multiple choice examination paper, worth a maximum of 40 marks and 45 minutes in duration.

The knowledge assessed in this unit will underpin the skills and understanding required in all of the other units in this qualification.

Exam papers for this unit will include multiple choice question types including reordering statements, true and false questions, linking boxes and selecting multiple responses.

SYNOPTIC ASSESSMENT

Synoptic assessment is a feature of this qualification and it requires learners to use an appropriate selection of their skills, knowledge and understanding, acquired through all of the units that make up their qualification, in an integrated way and apply them to a key task or tasks.

This helps learners to develop their appreciation and understanding of the connections between the different elements of learning in this qualification to help make their curriculum meaningful and better prepare them for employment in the digital media sector, please see Section 6 of the centre handbook for more detail.

Links between this unit and other units:

Unit 2, Principles of concept design and pre-production

Unit 3, Digital media industry – products and audiences

Unit 4, Digital media content enhancement

Unit 5, Creating digital media products

Unit 6, Moving image industry- products and audiences

Unit 7, Using special and visual effects for moving image content

Unit 8, Creating moving image products

Unit 9, Pitching advertising concepts

Unit 10, Developing digital media portfolios

MEANINGFUL EMPLOYER INVOLVEMENT – A REQUIREMENT FOR TECHNICAL CERTIFICATE QUALIFICATIONS

These qualifications have been designed to be recognised as Technical certificates in performance tables in England. It is a requirement of these qualifications for centres to secure employer involvement through delivery and/or assessment of these qualifications for every learner.

The minimum amount of employer involvement must relate to at least one or more of the elements of the mandatory content (this unit is a mandatory unit in the Level 2 Cambridge Technical Diploma in Digital Media), although we encourage you to find ways to engage with employers for other units as well.

Eligible activities and suggestions/ideas that may help you in securing meaningful employer involvement for this unit are given in the table below.

Please refer to the Qualification Centre Handbook (Section 5, Involving employers in teaching, learning and assessment) for further information including a list of activities that are not considered to meet this requirement.

Meaningful employer involvement – eligible activities	Suggestion/ideas for centres when delivering this unit
1. Students undertake structured work-experience or work-placements that develop skills and knowledge relevant to the qualification.	As part of a work placement in a digital media organisation students can develop an understanding of the skill requirements for cross-platform media use and recognise the impact on the industry of User Generated Content, being uploaded instantly.
2. Students undertake project(s), exercises(s) and/or assessments/examination(s) set with input from industry practitioner(s).	N/A
3. Students take one or more units delivered or co-delivered by an industry practitioner(s). This could take the form of master classes or guest lectures.	A visiting speaker from a media organisation, such as a producer or web designer, camera person can deliver a lecture and demonstrate how the technology is changing within the digital media sector and how this is impacting on product decisions.
4. Industry practitioners operating as 'expert witnesses' that contribute to the assessment of a student's work or practice, operating within a specified assessment framework. This may be a specific project(s), exercise(s) or examination(s), or all assessments for a qualification.	N/A

You can find further information on employer involvement in the delivery of qualifications in the following documents:

- [Employer involvement in the delivery and assessment of vocational qualifications](#)
- [DfE work experience guidance](#).

To find out more

ocr.org.uk/digitalmedia

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Alternatively, you can email us on **vocational.qualifications@ocr.org.uk**



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