



LAURUS
RYECROFT

**CURRICULUM
KNOWLEDGE AND SKILLS
SUBJECT REFERENCE GUIDE
YEAR 10**

GCSE ART & DESIGN

Students will develop their **KNOWLEDGE** of:

- **researching effectively** – the ability to explore the work of a range of artists, designers and craftspeople and draw inspiration from techniques, processes and ideas
- **exploring and communicating ideas using the work of others** to develop and extend thinking, and to help themselves make informed decisions with their own work. Having the ability to discuss and compare the work of others
- **a range of processes**, and how to use them within their work; making informed decisions about when to apply appropriate techniques within their work, and developing this
- how **ideas, feelings and meanings** can be conveyed and interpreted in images, artefacts and products
- how images, artefacts and products relate to **social, historical, vocational and cultural contexts**
- a variety of approaches, methods and intentions of contemporary and historical artists, craftspeople and designers from different cultures and their contribution to continuity and change in society.

Students will develop their **SKILLS** in:

- the ability to **record experiences and ideas** in appropriate forms when undertaking research and gathering, selecting and organising visual, and other relevant information
- **exploring relevant resources** – analysing, discussing and evaluating images, objects and products, making and recording independent judgements in visual and other forms
- **generating** and **exploring** potential lines of enquiry using appropriate new media practices and techniques
- **applying knowledge and understanding** in making images, artefacts and products; reviewing and modifying work and planning and developing ideas in the light of their own and others' evaluations
- **organising, selecting and communicating ideas**, solutions and responses, and presenting them in a range of appropriate visual, tactile and/or sensory forms including the use of new technologies
- working both as individuals and in collaboration with others in a range of situations
- **discussing** the work of relevant artists
- using correct **Art vocabulary**
- annotating and evaluating their own work in relation to their intentions

GCSE COMPUTER SCIENCE

Students will develop their **KNOWLEDGE** of:

- system architecture including the purpose of the CPU, Von Neumann architecture and embedded systems
- different types of memory including RAM and ROM
- different storage devices and their characteristics; including optical, magnetic and solid state
- wired and wireless networks including the hardware needed to set one up
- network topologies, protocols and layering
- system security, including the threats posed to networks and how to identify and protect vulnerabilities
- systems software including operating systems and utility system software
- legislation relevant to Computer Science
- how data needs to be converted into a binary format to be processed by a computer

Students will develop their **SKILLS** in:

- how to investigate and discuss Computer Science technologies while considering: ethical issues, legal issues, cultural issues, environmental issues and privacy issues
- planning and carrying out a practical investigation, creating efficient solutions to problems
- selecting suitable techniques to solve all aspects of a problem
- producing reports that effectively demonstrate an understanding of technical terminology/concepts
- critically appraising evidence presented
- programming techniques including basic programming constructs, loops, basic string manipulation, use of arrays and file handling
- using various software applications
- working collaboratively
- identifying potential risks when using ICT and then developing safe working practices to overcome these risks
- the use of SQL to search for data
- how to convert positive denary whole numbers (0–255) into 8 bit binary numbers and vice versa
- how to convert from binary to hexadecimal equivalents and vice versa

GCSE DRAMA

Students will develop their **KNOWLEDGE** of:

- creative expression: group work, leadership/directing, active listening, devising, collaboration, reflection and refining ideas
- verbal contribution: verbal evaluation, using drama terminology when creating or evaluating work, verbal analysis, communication of ideas theatrical style and genre: devising
- written communication: understanding examination requirements and structure, communicating content

Students will develop their **SKILLS** in:

- characterisation: movement (gesture, facial expression, body language, dynamics) voice (tone, pitch, pace, volume, articulation), development techniques (improvisation, devising from stimulus), relationships
- utilising conventions for a purpose: still image, marking the moment, split focus, physical theatre, mime, flash-forward/ back, slow motion, thought tracking, narration, forum theatre, symbolism, climax, contrast
- oracy and communication: presence, clarity, eye contact, presentation
- written communication: grammar and punctuation, expressing creative ideas.

GCSE ENGLISH LANGUAGE

Students will develop their **KNOWLEDGE** of:

Reading -

- a range of texts to help students articulate their ideas in a sophisticated way
- the way in which language, structure, form and context are used to enable a writer to express their ideas
- the significant impact that literature has on the world

Writing -

- the methods used to write with engagement and control
- the ways in which specific audiences can be targeted through linguistic devices.

Speaking and Listening -

- the various ways in which talk and discussion can be used to articulate meaning

Students will develop their **SKILLS** in:

Reading –

- articulating informed interpretations of meanings supported by well-chosen textual reference
- analysing how writers use language and structure to convey ideas, achieve effects and influence readers using relevant subject terminology
- comparing ideas, attitudes, methods and contexts in order to evaluate effectiveness
- relating different texts to their relevant social, historical and literary context across the 19th, 20th and 21st century
- making links between texts
- accessing unseen literature independently
- evaluating texts critically and supporting this with appropriate textual references

Writing -

- communicate clearly, effectively and imaginatively
- selecting and adapting tone, style and register for different forms, purposes and audiences
- organising information and ideas, using structural and grammatical features to support coherence and cohesion of texts
- selecting appropriate words and phrases from a rich and wide vocabulary
- demonstrating control of spelling, punctuation and grammar
- utilising a variety of sentence structures with control for both meaning and effect

GCSE ENGLISH LITERATURE

Students will develop their **KNOWLEDGE** of:

Reading -

- a range of seen and unseen texts from across the 19th, 20th and 21st century to help students articulate their ideas in a sophisticated way
- the way in which language, structure, form and context are used to enable a writer to express their ideas
- the significant impact that literature has on the world
- different genres of writing and their influences

Writing -

- the methods used to write with engagement and control

Students will develop their **SKILLS** in:

Reading –

- articulating informed interpretations of meanings supported by well-chosen textual reference
- analysing how writers use methods to convey ideas, achieve effects and influence the reader or audience, including language, structure, form and dramatic devices
- comparing ideas, attitudes, methods and contexts in order to evaluate effectiveness
- making specific links between texts and their relevant social, historical and literary context across the 19th, 20th and 21st century
- comparing unseen texts
- exploring the writer's purpose, ideas and perspectives

Writing –

- demonstrating control of spelling, punctuation and grammar when articulating ideas

L1/2 TECH AWARD IN HOSPITALITY & CATERING

Students will develop their **KNOWLEDGE** of:

- food hygiene and Safety
- bacterial contamination
- the environment in which the catering service operates.
- food provenance
- hospitality and catering provisions
- major food commodities groups
- how a commodity is grown, reared and processed
- food preparation, cooking and presentation
- nutritional values (sources, functions, deficiencies, excess, daily requirements)
- dietary considerations for special groups
- sensory properties of food
- the use of specialist equipment
- specialist language and culinary terms
- food storage and packaging

Students will develop their **SKILLS** in:

- accurate food preparation with the emphasis on high level skills
- understanding the physical function of food commodities and applying the knowledge
- cookery and baking techniques
- presenting food
- problem solving
- project based research, development and presentation
- working alongside other professionals, in a professional environment
- selecting and planning practical tasks in detail
- evaluating practical and scientific tasks in detail
- conducting a food science experiment and writing a hypothesis
- managing time effectively

GCSE GEOGRAPHY

Students will develop their **KNOWLEDGE** of:

- Global Hazards
- Dynamic Development
- Distinctive Landscapes: Rivers
- UK in the 21st Century
- Changing Climate
- Human Fieldwork: Salford Quays
- Creating an effectively organised book to allow for revision

Students will develop their **SKILLS** in:

- Writing structured and well-developed answers, with case studies embedded throughout a logical discussion
- Human fieldwork techniques
- Making synoptic links between ideas and knowledge linking to develop their answers further
- Exam technique
- Timings

GCSE HISTORY

Students will develop their **KNOWLEDGE** of:

Germany, 1890–1945: Democracy and dictatorship

- Germany and the growth of democracy
- Germany and the Depression
- The experiences of Germans under the Nazis

Conflict and tension between East and West, 1945–1972

- The origins of the Cold War
- The development of the Cold War
- Transformation of the Cold War

Britain: Migration, empires and the people: c790 to the present day

- Conquered and conquerors
- Looking West
- Expansion and empire
- Britain in the 20th century

Elizabethan England, c1568–1603

- Elizabeth's court and Parliament
- Life in Elizabethan times
- Troubles at home and abroad
- The historic environment of Elizabethan England

Students will develop their **SKILLS** in:

- explaining and analysing historical events and periods studied using second order historical concepts including continuity, change, cause, consequence, significance, similarity and difference
- analysing, evaluating and using sources (contemporary to the period) to make substantiated judgements, in the context of historical events studied
- analysing, evaluating and making substantiated judgements about interpretations (including how and why interpretations may differ) in the context of historical events studied
- developing as independent learners and as critical and reflective thinkers
- developing the ability to ask relevant questions about the past, to investigate issues critically and to make valid historical claims by using a range of sources in their historical context
- developing an awareness of why people, events and developments have been accorded historical significance and how and why different interpretations have been constructed about them
- organising and communicate their historical knowledge and understanding in different ways and reach substantiated conclusions

GCSE MATHS

Students will develop their **KNOWLEDGE** of:

accurately recall facts, terminology and definitions

- using and interpreting notation correctly
- accurately carry out routine procedures or set tasks requiring multi-step solutions
- making deductions, inferences and draw conclusions from mathematical information
- constructing chains of reasoning to achieve a given result
- translating problems in mathematical or non-mathematical contexts into a process or a series of mathematical processes
- making and use connections between different parts of mathematics

Students will develop their **SKILLS** in:

- interpreting and communicate information accurately
- presenting arguments and proofs
- assessing the validity of an argument and critically evaluate a given way of presenting information
- interpreting results in the context of a given problem
- evaluating methods used and results obtained
- evaluating solutions to identify how they may have been affected by assumptions made

GCSE MEDIA

Students will develop their **KNOWLEDGE** of:

- media language and media specific terminology applicable to both general areas of media as well as the media industries studied as part of their course
- media organisations and the structures within the media industry
- how audiences are defined and how various media texts target different audiences
- various genres in media and how they can be defined by generic conventions
- a range of media products

Students will develop their **SKILLS** in:

- applying media language and media specific terminology into their writing of controlled assessments and exams
- responding to a variety of media texts in an analytical way
- various digital media packages in order to edit their own practical media productions
- researching into relevant media texts (set texts and unseen) using different research methods and techniques
- using a range of digital equipment

BTEC LEVEL 1/2 FIRST AWARD IN CREATIVE MEDIA PRODUCTION

Students will develop their **KNOWLEDGE** of:

- media language and media specific terminology applicable to both general areas of media as well as the media industries studied as part of their course
- media organisations and the structures within the media industry
- how audiences are defined and how various media texts target different audiences
- various genres in Media and how they can be defined by generic conventions
- researching into relevant media texts using different research methods and techniques

Students will develop their **SKILLS** in:

- applying media language and media specific terminology into their writing of controlled assessments and examined assessments
- responding to a variety of media texts in an analytical way
- various digital media packages in order to edit their own media practical productions
- working to deadlines

GCSE FRENCH

Students will develop their **KNOWLEDGE** of:

- building on grammatical principles established in learning their first foreign language to speed progress in developing grammar in the new language
- using a wide range of regular and irregular verb forms
- using verb forms in past, present and future tenses without prompting
- using time markers to express different time frames
- using adjective agreement confidently in different contexts
- using a wide range of topic specific vocabulary from the GCSE specification to express ideas in creative ways
- manipulating grammar to express more complex ideas

Students will develop their **SKILLS** in:

- making connections between foreign languages to support progress
- redrafting their work to improve accuracy
- practising challenging spellings and key expressions / verbs to improve accuracy in writing
- holding longer conversations and reacting spontaneously to questioning
- developing their ideas and points of view using a wide range of structures
- translating texts using their understanding of both the Target Language and English to convey meaning accurately
- independently using a dictionary or vocab book to deepen vocabulary and as reference material
- understand and appreciate a range of literary texts such as poems, stories and songs, which stimulate ideas and opinions
- reading and understanding texts of varying length to understand both gist and detail
- listening to and understanding speech of varying speed and length to understand both gist and detail
- identify learning needs from tests and GCSE style assessments (study skills)

GCSE MUSIC

Students will develop their **KNOWLEDGE** of:

The Elements of Music

- Melody
- Harmony
- Tonality
- Structure
- Sonority (Timbre)
- Texture
- Tempo, metre and rhythm
- Dynamics and articulation

Musical Genres (Developing understanding of the musical features within a variety of musical genres. Exploring the contexts, origins and traditions of different musical styles)

- Western Classical Tradition 1650-1910
- Popular Music
- Traditional Music
- Western Classical Tradition since 1910

- **Musical Vocabulary** (Knowledge of musical terms, including Italian terms and ability to apply them correctly to various musical tasks)
- **Musical Symbols** (Such as notes on a stave, treble clef, stave, time signatures, accidentals)
- **Notes of the Keyboard** (Able to know the notes without support)
- **Treble Clef Notation** (Have a good understanding of treble clef notation for use in practical tasks)
- **Rhythmical Musical Symbols** (Crotchets, Minims, quavers, equivalent rests etc.)

Students will develop their **SKILLS** in:

Performing Music

- singing with expression, clear diction, fluency and accuracy – both solo and in a group
- demonstrating high level of confidence in performance
- maintaining an appropriate role within a group (leading, solo part or support)
- showing awareness of the needs of others in group tasks
- ability to coordinate your part with the other performer(s), considering timing
- performing fluently and accurately on the keyboard and tuned percussion
- performing longer parts from memory and/or from music notations
- show an understanding of chords & melodies
- perform on an instrument (or voice) with reasonable technical skill and expression, using tempo, timbre, dynamics and phrasing

Composing Music

- improvising melodic/rhythmic material within extended structures
- using tempo and dynamics creatively

- sustaining and developing musical ideas
- making significant contributions to a group
- composing music for different genres which explore musical features and devices
- using rehearsal time effectively to refine material
- use relevant notations to plan and revise material
- explore contrasts by exploiting the musical elements
- create coherent compositions, contributing developed ideas to individual and group tasks
- adapt, improvise, develop, extend and discard musical ideas within chosen musical styles

Understanding Music

- identifying different genres of music and their features within listening tasks
- analyse music in more detail, using key words and musical terms
- evaluating how venue, occasion and purpose affect the way music is created performed and heard
- exploring the contexts, origins and traditions of different musical styles
- describing and comparing musical features in listening tasks, using appropriate vocabulary
- recognising a variety of different instrument sounds, knowing the instrument families (and the specific instruments)
- knowing the musical elements and be able to describe how they have been used in listening tasks
- have a good understanding of treble clef notation
- considering successful/non-successful outcomes and improve their own and others' work
- using appropriate musical vocabulary when creating or evaluating work
- write accurate descriptions, using technical vocabulary to give detailed answers
- evaluating and making critical judgements about the use of musical conventions and other characteristics

GCSE PE

Students will develop their **KNOWLEDGE** of:

- understanding that a wide range of factors affect participation in exercise and can recall, select and communicate those factors and their relationship between them
- the principles behind, and the benefits of regular, safe exercise and its impact on performance, fitness and health
- the advantages of following a healthy active lifestyle and can explain potential risks related to exercise

Students will develop their **SKILLS** in:

- demonstrating their ability to select and apply appropriate skills, techniques and ideas in a variety of activities
- being able to offer a wide range of solutions to challenges set and make effective decisions about their performance
- analysing and evaluating their own performance, identifying strengths and weaknesses
- having an understanding of the impact of skills, tactics or composition and fitness on the quality and effectiveness of performance

BTEC LEVEL 1/2 FIRST AWARD IN SPORT

Students will develop their **KNOWLEDGE** of:

- understanding that physical activity contributes to the healthy functioning of the body and mind as part of a healthy active lifestyle
- recalling and selecting components of fitness, methods of training and principles of training linking, being able to link to a variety of sports
- understanding the rules, regulations and scoring systems for selected scores
- knowing attributes associated with successful sports leadership
- knowing how to plan and review a sports activity, implementing changes for future sessions

Students will develop their **SKILLS** in:

- investigating and applying fitness testing to determine fitness levels, showing awareness of normative values for their own age groups
- demonstrating practically skills, techniques and tactics in selected sports, applying them to produce effective outcomes
- being able to review sports performance, using ICT to develop feedback methods
- designing, implementing and reviewing a personal fitness training programme

CORE PE

Students will develop their **KNOWLEDGE** of:

- advanced strategies, tactics and skills used in sports and physical activities
- rules and regulations for a range of sports
- short term effects of exercise on the body to muscular, cardiovascular and respiratory systems
- antagonist muscle movement in sport specific skills for all antagonistic pairs
- components of fitness explaining how they benefit different sports/activities
- choreographed dances with advanced ideas
- safety factors during physical activity and for more advanced activities
- the benefits of leading a healthy active lifestyle – through exercise and physical activity outside of school

Students will develop their **SKILLS** in:

- racquet/striking and fielding/invasion games/athletics/dance/health related exercise
- team work
- using advanced techniques, strategies and tactics in a range of sports in competitive game situations
- being able to make the correct decisions in competitive situations to allow you to beat an opponent regularly and apply knowledge to different contexts/activities
- contemporary and traditional dance styles and techniques, developing choreography and using the four dance key themes effectively in your work
- analysing performance of yourself and others during performance to alter the outcome of a game

GCSE RELIGIOUS STUDIES

Students will develop their **KNOWLEDGE** of:

- Philosophical ultimate questions
- Christianity: beliefs, teachings and practices
- Islam: beliefs, teachings and practices
- Relationships and families
- Religion and life
- Human Rights and Social Justice
- Religion, Crime and Punishment

Students will develop their **SKILLS** in:

- Philosophical and religious thinking and how it influences people's lives
- An awareness of differing viewpoints
- Appraising and appreciating a variety of beliefs and world-views
- Deep thinking skills in connection to ultimate questions
- Listening to others and respectfully disagreeing
- Using evidence from various sources, including religious scripture, to express and evaluate ideas
- Enquiry
- Analysing different ideas and viewpoints and being willing to justify your point of view
- Debating
- Spelling, punctuation and grammar
- Empathy
- Comparison and identifying links between beliefs and points of view
- Putting religious and non-religious scripture into context to draw meaning and conclusions
- Research and interpretation

CORE BELIEFS AND VALUES

Students will develop their **KNOWLEDGE** of:

- Ethics
- Social Justice
- Forgiveness
- Peace and Pacifism
- Racism
- Prejudice
- Discrimination

Students will develop their **SKILLS** in:

- Maturity, compassion and tolerance towards real world issues
- Ethical, philosophical and religious thinking and how it influences people's lives
- An awareness of differing viewpoints
- Appraising and appreciating a variety of beliefs and worldviews
- Deep thinking skills in connection to ultimate questions
- Listening to others and respectfully disagreeing
- Using evidence from various sources, including religious scripture, to express and evaluate ideas
- Enquiry
- Analysing different ideas and viewpoints and being willing to justify your point of view
- Debating
- Spelling, punctuation and grammar
- Empathy
- Comparison and identifying links between differing points of view

GCSE SCIENCE

Students will develop their **KNOWLEDGE** of:

Biology

- cells, subcellular structures and how microscopy is used to examine these
- how genetic material is used as a code to make proteins. Enzymes are important proteins in biology
- metabolic processes such as respiration
- how green plants and algae trap light from the Sun in photosynthesis
- how cells transport many substances across their membranes by diffusion, osmosis and active transport
- stem cells which are found in both plants and animals and can divide, differentiate and become specialised to form tissues, organs and organ systems

- gaseous exchange surfaces and transport systems in multicellular organisms
- the human nervous system
- the role of hormones in the human body
- the role of plant hormones in regulating plant growth and development. They can be used in agriculture to control the rate of growth (Separates only)
- regulation of internal environments (homeostasis) which enables organisms to adapt to change, both internally and externally

Chemistry

- the particle model and its explanation of different states of matter
- how elements are substances that are made up of only one type of atom and atoms of different elements can combine to make compounds
- models of atomic structure
- estimate size and scale of atoms and nanoparticles and describe the properties and uses of nanoparticles (Separates only)
- useful materials that we use today that are mixtures
- method of separating mixtures including filtration, crystallisation, distillation and chromatographic techniques
- what happens when chemical reactions occur in terms of losing, gaining or sharing of electrons
- the physical properties of elements and compounds and how the nature of their bonding is a factor in their properties
- using chemical equations to represent the overall change in a chemical reaction
- conservation of mass
- that chemical reactions are accompanied by an energy change and a simple model involving the breaking and making of chemical bonds can be used to interpret and calculate the energy change
- examples of reactions including reduction, oxidation and neutralisation reactions
- electrolysis
- models of how substances react and the different types of chemical reactions that can occur enable us to predict the likelihood and outcome of a chemical reaction (Separates only)
- the current Periodic Table and the way it reveals the trends and patterns in the behaviour of the elements (Separates only)

Physics

- matter in its different forms, subatomic particles, their relative charges, masses and positions inside the atom
- change in pressure in the atmosphere and in liquids with height (qualitative relationship only) (Separates only)
- floating and sinking and the effect of upthrust (Separates only)
- the effects of forces
- the direction in which forces act to allow understanding of the importance of vector quantities when trying to predict the action
- Newton's laws of motion
- force interactions between objects, which can take place even if they are not in contact
- Forces acting on an object can result in a change of shape or motion.
- interactions between matter and electrostatic fields

- how electrical currents depend on the movement of charge and the interaction of electrostatic fields
- the links between movement of charge and magnetism
- use of magnetic fields to induce electrical currents and the applications of this electromagnetic induction in motors, dynamos and transformers (Separates only)

Students will develop their **SKILLS** in:

- hypothesising and testing theories and concepts
- assessing hazards and taking precautions to minimise the associated risks
- using appropriate apparatus and techniques
- observation, enquiry and problem solving
- analysing methodology, evidence and conclusions
- interpreting and evaluating
- communication, mathematics and the use of technology in scientific contexts