KEITH GRAMMAR SCHOOL

SENIOR COURSE DESCRIPTORS

LEVEL 6

DECEMBER 2020

Keith Grammar School….
Working together to be Aspirational, Respectful, Healthy and Responsible

ART & DESIGN (Higher)

The Art & Design course consists of three elements: Expressive, Design and Critical Analysis.

An Expressive Portfolio with a focus on observational drawing, media handling and awareness of the visual elements. Pupils will choose a theme and genre to work within.

A Design Portfolio where pupils are tasked with designing a piece of 2D or 3D design; challenging their ability to answer a brief, problem-solve and work with materials.

And a Critical Analysis Unit which involves describing and explaining the work of artists and designers.

Pupils are awarded a high degree of choice and personalization during the course. It is hoped that prior learning in S1-S3 will have allowed pupils to find their strengths and areas of interest within Art & Design and build upon these during Senior Phase.

Assessment:
National 4 (Level 4) is internally assessed, with no exam.
National 5 (Level 5) is externally assessed, with an exam. The Expressive & Design Portfolios account for 80% and the Exam (Critical Analysis) is weighted at 20%.
Higher (Level 6) is externally assessed, with an exam. The Expressive & Design Portfolios account for 77% and the Exam (Critical Analysis) is weighted at 23%.

BUSINESS MANAGEMENT (Higher)

This course consists of three units: (i) Understanding Business (ii) Management of People and Finance and (iii) Management of Marketing and Operations. There is an assignment (marked externally and worth 30 marks) that researches a business of choice. There is also an external exam worth 70 marks. The course will assist pupils to develop a detailed understanding of the types of organisations within contemporary industry and how they operate and ensure their business is successful.

CHEMISTRY (Higher)

The course develops learners' curiosity, interest and enthusiasm for chemistry in a range of contexts. The skills of scientific inquiry and investigation are developed throughout the Course, and the relevance of chemistry is highlighted by the study of the applications of chemistry in everyday contexts.

Chemistry, the study of matter and its interactions, contributes essential knowledge and understanding across all aspects of our lives. Chemistry explains the links between the particulate nature of matter and the macroscopic properties of the world.

This course encourages resilience, which leads to becoming a confident individual. Successful learners in chemistry think creatively, analyse and solve problems. Chemistry can produce responsible citizens through studying the impact it makes on developing sustainability and its effect on the environment, society, and their own and others' lives.

It also provides opportunities for learners to recognise the impact chemistry makes on developing sustainability, and its effects on the environment, on society and on the lives of themselves and others.

The course covers four units –

Chemical Changes and Structure - controlling reaction rates and periodic trends, and strengthens the learner's ability to make reasoned evaluations by recognising underlying patterns and principles. Learners will investigate collision theory and the use of catalysts in reactions. Learners will explore the concept of electronegativity and intra-molecular and intermolecular forces. The connection between bonding and a material's physical properties is investigated.

Researching Chemistry - the key skills necessary to undertake research. Learners will research the relevance of chemical theory to everyday life by exploring the chemistry behind a topical issue. Learners will develop the key skills associated with collecting and synthesising information from a number of different sources. Equipped with the knowledge of common chemistry apparatus and techniques, they will plan and undertake a practical investigation related to a topical issue.

Nature's Chemistry - organic chemistry within the context of the chemistry of food and the chemistry of everyday consumer products, soaps, detergents, fragrances and skincare. The relationship between the structure of organic compounds, their physical and chemical properties and their uses are investigated. Key functional groups and types of organic reaction are covered.

Chemistry in Society - the principles of physical chemistry which allow a chemical process to be taken from the researcher's bench through to industrial production. Learners will calculate quantities of reagents and products, percentage yield and the atom economy of processes. They will develop skills to manipulate dynamic equilibria and predict enthalpy changes. Learners will investigate the ability of substances to act as oxidising or reducing agents and their use in analytical chemistry through the context of volumetric titrations. Learners will use analytical chemistry to determine the purity of reagents and products.

Learning is tracked through ongoing assessments within each unit. The final 2.5 hour exam contributes 80% of the eventual grade, with the other 20% from an externally marked assignment completed within class.

PROFESSIONAL COMPUTER FUNDAMENTALS (Level 6 National Progression Award)

This course is being offered as part of a Moray Council schools' partnership and will be a distance learning course supported by Speyside High School.

COMPUTING SCIENCE (Higher)

If you like puzzles, this is the course for you. You will be able to demonstrate your problem-solving skills by providing coding solutions, using Visual Basic/Python, SQL (Databases), HTML and CSS (Web pages). The assessment is based on an assignment where you demonstrate your Practical Skills (externally assessed) and an exam.

The course consists of four units:

Computer Systems – You will develop your understanding of how data and instructions are stored in binary form and factors affecting system performance. You will gain an awareness of the environmental impact of intelligent systems, as well as the security risks (e.g. Cookies and DDOS attacks), precautions and laws that can protect computer systems.

Software Design and Development – You will use appropriate modular software development environments (Visual Basic/Python) to learn advanced concepts and practical problem-solving skills. You will learn how to read into a program, large files of data (e.g. Grand Prix results, RSPB Birdwatch), manipulate the data and provide appropriate output.

Database Design and Development – You will learn how to create SQL code that powers databases business uses such as Amazon, British Airways, etc. You will develop practical and problem-solving skills through a range of tasks involving creating and querying databases using SQL code.

Web Design and Development – You will use web page development tools and code such as HTML (Hyper Text Mark-Up Language) to structure a web page and CSS (Cascading Style Sheets) to create a consistent look and feel to the pages.

ENGINEERING SCIENCE (Higher)

Engineering brings together elements of technology, science and mathematics, and applies these to real-world challenges. This course provides an excellent opportunity to make links across learning in the senior phase.

The course encourages candidates to become successful, responsible and creative in using technologies and to develop a range of qualities, including flexibility, perseverance, confidence and enterprise.

Engineering shapes the world in which we live and its future. Engineers play key roles in meeting the needs of society in fields that include climate change, medicine, IT and transport.

The course provides a broad and challenging exploration of engineering, enabling candidates to:

- ♦ extend and apply knowledge and understanding of key engineering concepts, principles and practice
- ♦ understand the relationships between engineering, mathematics and science
- ♦ apply analysis, design, construction and evaluation to a range of engineering problems with some complex features
- ♦ communicate engineering concepts clearly and concisely, using appropriate terminology
- ♦ develop a greater understanding of the role and impact of engineering in changing and influencing our environment and society

The course develops skills in three main areas. Candidates are able to apply these skills through a range of contexts, within the broad discipline of engineering.

Engineering contexts and challenges
Candidates develop a deep understanding of engineering concepts by exploring a range of engineering problems with some complex features, and their solutions. This allows them to explore some existing and emerging technologies and challenges, and to consider implications relating to the environment, sustainable development, and economic and social issues.

Electronics and control
Candidates explore an appropriate range of key concepts and devices used in electronic control systems, including analogue, digital and programmable systems. They develop skills in problem solving and evaluating through simulation, practical projects and investigative tasks across a range of contexts.

Mechanisms and structures
Candidates develop a deep understanding of mechanisms and structures. They develop skills in problem solving and evaluating through simulation, practical projects and investigative tasks across a range of contexts.

The course is assessed by an examination paper and an assignment, both of which are marked by Scottish Qualifications Authority markers.

ENGLISH (Higher)

This course follows naturally on from National 5 English, requiring increased levels of knowledge and application as well providing more challenge. Building on their previous experiences, students will continue to develop their skills across reading, writing, talking and listening. Higher English is most appropriate for pupils who have achieved a Grade A or B at National 5.

The course is assessed by two external exam papers which examine a candidate's close reading and critical reading abilities.

Pathways for progression include Advanced Higher English and Higher History/Modern Studies. In addition, Higher English is a requirement of entry for admission to many university courses.

GEOGRAPHY (Higher)

Students study 4 units in Higher Geography.

- Unit 1 - Physical Environments - Topics covered are Glaciation, Coasts, Atmosphere, Soils and Rural Land Use.
- Unit 2 - Human Environments - Topics covered are Population, Migration, Urban Studies and Rural Studies.
- Unit 3 - Environmental Interactions - Topics covered are Development and Health and Global Climate Change.
- Unit 4 - Application of Geographical Skills - the main focus here is the interpretation of maps, graphs, diagrams and photographs.

There is an Assignment which is written up under exam conditions. This is an investigation based on the data collected during a local field trip. This is worth 30 marks and counts toward the final grade. There is an external exam in May.

Many skills are covered in the course – data handling, extracting information from sources, map skills and interpretation, field work skills, research skills, report writing, recall of knowledge and drawing and interpreting graphs.

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GRAPHIC COMMUNICATION (Higher)

This course offers a broad and creative experience in the subject of graphic communication and graphic design, providing progression from National 5 Graphic Communication. The course allows learners to broaden and deepen their skills base and to widen their horizons regarding a range of vocations and careers. It provides opportunities to further acquire and develop the attributes and capabilities of the four capacities, including: creativity, flexibility and adaptability; enthusiasm and a willingness to learn; perseverance, independence and resilience; responsibility and reliability; and confidence and enterprise. Learners are encouraged to exercise imagination, creativity and logical thinking. They will develop an awareness of graphic communication as an international language. They will find that the skills they acquire by successfully completing this course will be invaluable for learning, for life and for the world of work. The course provides skills that are complementary to other curricular areas, such as expressive arts, sciences, and mathematics. It provides skills that are valuable for learners in the other areas of study in the technologies.

The course provides opportunities for learners to initiate and develop their own ideas graphically. It allows them to develop skills in reading and interpreting graphics produced by others. Learners will continue to develop graphic awareness in often complex graphic situations thus expanding their visual literacy. The course is practical, exploratory and experiential in nature. It combines elements of creativity and communicating for visual impact with elements of protocol and an appreciation of the importance of graphic communication standards, where these are appropriate. The Course allows learners to engage with technologies. It allows learners to consider the impact that graphic communication technologies have on our environment and society. The aims of the Course are to enable learners to develop:

- skills in graphic communication techniques, including the use of equipment, graphics materials and software
- creativity in the production of graphic communications to produce visual impact in meeting a specified purpose
- skills in evaluating the effectiveness of graphics in communicating and meeting their purpose
- an understanding of graphic communication standards protocols and conventions, where these apply
- an understanding of the impact of graphic communication technologies on our environment and society

HISTORY (Higher)

In this course, pupils study three different units:

- Scottish: Migration and Empire, 1830-1939
- British: Britain 1851-1951
- European and World: USA: 1918-1968

Pupils are assessed through an external exam which comprises of one paper that asks them to write an essay on both the British and European and World topics and analyse three sources according to the way they have been taught all year. The exam is worth 60 marks. They also sit an Assignment worth 30 marks in which they choose a historical theme, a question, research it and produce an essay which is written up under exam conditions. This gives them the opportunity to investigate an area of History they find fascinating and to delve deeper into historical information to apply the knowledge they have learned.

HUMAN BIOLOGY (Higher)

The purpose of this course is to develop learners' interest and enthusiasm for human biology in a range of contexts. The skills of scientific inquiry and investigation are developed, throughout the course, by investigating the applications of human biology. This will enable learners to become scientifically literate citizens, able to review the science-based claims they will meet. The course provides a broad-based, integrated study of a range of biological topics which develop the concepts of human biology.

The course provides the opportunity for learners to acquire a deeper understanding of cellular processes, physiological mechanisms, communication between organisms, and the biology of populations as they apply to the human species arranged under the following four units:

Human Cells - stem cells, differentiation in somatic and germline cells, and the research and therapeutic value of stem cells and cancer cells. Division and differentiation in human cells; structure and replication of DNA; gene expression; genes and proteins in health and disease; human genomics; metabolic pathways; cellular respiration; energy systems in muscle cells. Analytical thinking and problem solving skills will be developed in context, through investigation of DNA, the expression of the genotype, and protein production, which allows study of mutations and genetic disorders. DNA technology including sequencing and medical and forensic applications. Metabolic pathways and their control, through enzymes, with emphasis on cellular respiration and the role of ATP are also covered.

Physiology and Health - structure and function of reproductive organs and gametes and their role in fertilisation; hormonal control of reproduction; the biology of controlling fertility; ante and postnatal screening; the structure and function of arteries, capillaries and veins; the structure and function of the heart; pathology of cardio vascular disease (CVD); blood glucose levels and obesity linked to cardiovascular disease and diabetes. By studying these systems, learners will be able to develop their problem solving and analytical thinking skills. Reproduction covers hormonal control and the biology of controlling fertility, including fertile periods, treatments for infertility, contraception, antenatal care and post-natal screening. The Unit also covers relevant tissues and circulation and the pathology of cardiovascular disease, including the impact on society and personal lifestyle.

Neurobiology and Communication - divisions of the nervous system and parts of the brain; perception and memory as storage, retention and retrieval of information; the cells of the nervous system and neurotransmitters at synapses; communication and social behaviour. The approach is more on function than structure, and covers neural communication and the links between neurotransmitters and behaviour, while considering personal and social citizenship. This approach enables the development of both analytical thinking and problem solving skills in context.

Immunology and Public Health- In this unit, learners will develop knowledge and understanding through the key areas of non-specific defences; specific cellular defences; the transmission and control of infectious diseases; active immunisation and vaccination and the evasion of specific immune responses by pathogens.

Assessments are completed at the end of each unit to allow progression onto the final exam. An exam, worth 80% of the final grade, is combined with an externally assessed assignment to give a final mark.

MATHS (Higher)

The following provides a broad overview of the subject skills, knowledge and understanding developed in the course:

- use algebraic and trigonometric skills and apply them in context
- use geometric skills and apply them in context
- use calculus skills and apply them in context
- use algebraic and geometric skills and apply them in context

The course is split into three units: Expressions and Functions, Relationships and Calculus and Applications. These have been split into 5 blocks with an assessment at the end of each block. It is vital that all pupils work to their full potential and ensure that they are thoroughly prepared for these assessments as this will allow for their success in presentation

The course assessment has two components: Paper 1 (non-calculator) 1 hour 15 minutes and Paper 2 (calculator) 1 hour 30 minutes.

MODERN LANGUAGES (Higher)

In **Higher French/German** pupils continue to develop and extend their skills gained through prior study of the language. They continue to develop the ability to read, listen, talk and write in the modern language, understand and use detailed and increasingly complex language and apply knowledge about how language works (grammar). Skills are developed through the four key contexts of society, learning, employability and culture.

Pupils will be provided with detailed assessment information for internal assessments, as well as the Higher exams (prelim and final exams).

MODERN STUDIES (Higher)

Modern Studies is a subject unique to the Scottish secondary school curriculum that is concerned with the study of local, national and international issues from a social, political and economic perspective.

At CFE Higher pupils study three topic areas: 1-Social Inequalities in the UK, 2-Democracy in Scotland and the UK, and 3-International Powers (USA). The course is graded A-C. There is an external exam worth 80 marks and an Assignment which is worth 20 marks. The Assignment is a piece of research on a chosen topic which is completed in class, but marked externally.

MUSIC (Higher)

The course contains three compulsory components:

Performing Skills on two instruments or one instruments and voice: Pupils will perform in a range of musical styles by developing a range of complex musical, interpretive and technical skills, showing clear understanding of the composers' intentions, critically self-reflecting and evaluating the quality and accuracy of their performing and refining their performing skills.

Pupils will prepare a programme of music lasting twelve minutes in total, performing a minimum of two contrasting pieces on each instrument. (A minimum of four minutes within the programme on either instrument). The minimum level of difficulty at Higher is Grade 4 ABRSM. Performance makes up 50% of the final grade. This is externally assessed by a visiting examiner; the final practical exam can take place from mid-February to the end of March.

Composing Skills: Pupils will learn to create original music by identifying the compositional methods and music concepts used in given examples of music. Pupils will experiment and use music concepts and compositional methods to develop and create original music. Pupils will explore and develop musical ideas and create one complete piece of music. This must be completed by March and is externally assessed. A review of the composition and the process undergone to complete must also be included. Composing makes up 10% of your final grade.

Understanding Music: Pupils will learn to identify and analyse the use of music concepts and styles by identifying and distinguishing between complex level-specific music concepts in excerpts of music, analyse the impact of social and cultural influences on the development of specific music styles and analyse and use a variety of music signs and symbols and terms. The final assessment is a question paper of approximately 1 hour in length. The question paper makes up 40% of the final grade.

PHYSICAL EDUCATION (Higher)

Purpose
This course is designed to give pupils the chance to explore how Mental, Emotional, Social and Physical factors impact on sporting performance. Pupils will take part in 3 activities across the year, carrying out a training program in each.

Entry requirement
Entry to this course should be through National 5 Physical Education. Pupils are able to gain entry to the Higher course without doing National 5 however this should only be attempted after consultation and will be at the discretion of the PE department.

Assessment
Practical Performance
Pupils will take part in 2 graded performances. The performances are both marked out of 30, totaling 60 marks (50% of the total marks available for course assessment).

The purpose of these performances is to assess the pupil's ability levels in two different activities. Pupils will be able to select the activities they wish to be assessed in. In the case of unusual or less mainstream activities being selected by pupils this will be at the discretion of the department. The context of the performances must be challenging, competitive and/or demanding, and each performance will be assessed during a single event.

Question Paper
The question paper will have 50 marks (50% of the total marks available for the course assessment). It will have no optional questions. Learners will undertake the question paper in 2 hours and 30 minutes.

The purpose of this question paper is to assess the learner's ability to integrate and apply knowledge and understanding from across the course. It is designed to assess applied knowledge, understanding and evaluation skills.

PHYSICS (Higher)

The Higher Physics course comprises four units:

- Particles and Waves,
- Electricity,
- Our Dynamic Universe and
- Researching Physics.

The course assessment comprises a written examination paper and a course assignment on the behaviour of light emitting diodes, both of which are marked and graded by Scottish Qualification Authority markers.

COLLEGE COURSES

BUSINESS SKILLS (Level 6 Foundation Apprenticeship)

College course, information available on the Moray College booklet on the KGS Website.

CHILDREN & YOUNG PEOPLE (Level 6 Foundation Apprenticeship)

College course, information available on the Moray College booklet on the KGS Website.

SOCIAL SERVICES & HEALTHCARE (Level 6 Foundation Apprenticeship)

College course, information available on the Moray College booklet on the KGS Website.

ENGINEERING (Level 6 Foundation Apprenticeship)

College course, information available on the Moray College booklet on the KGS Website.

CREATIVE & DIGITAL MEDIA (Level 6 Foundation Apprenticeship)

College course, information available on the Moray College booklet on the KGS Website.

ESOL (HIGHER ENGLISH SPEAKERS OF OTHER LANGUAGES)

College course, information available on the Moray College booklet on the KGS Website.

HUMAN BIOLOGY

College course, information available on the Moray College booklet on the KGS Website.

FOOD & DRINK TECHNOLOGIES (Level 6 Foundation Apprenticeship)

College course, information available on the Moray College booklet on the KGS Website.

PSYCHOLOGY (Higher)

College course, information available on the Moray College booklet on the KGS Website.

CRIMINOLOGY

College course, information available on the Moray College booklet on the KGS Website.

SOCIOLOGY (Higher)

College course, information available on the Moray College booklet on the KGS Website.