2021 Assessment resources
Non GQ Grade Descriptors

Contents

Applied General Business

Grade	Descriptor
Distinction	- To achieve DISTINCTION, candidates will be able to: - demonstrate a depth of knowledge and understanding of a range of business terms, concepts, theories, methods and models. - apply in-depth knowledge and understanding of a range of key business terms, concepts, theories, methods and models. - make good use of the business context. - select and use relevant information from a range of sources to analyse business issues, problems or opportunities. - make supported judgements about or propose viable solutions to business issues using a range of quantitative and qualitative information. - address the demands of the question or investigation as a whole.
Pass	To achieve PASS, candidates will be able to: - demonstrate, perhaps with omissions, mostly accurate and appropriate knowledge and understanding of a range of business terms, concepts, theories, methods and models. - apply knowledge and some understanding to a limited range of business terms, concepts, theories, methods and models. - make limited use of the business context. - select and use relevant information from a limited range of sources to partially analyse business issues, problems or opportunities. - make judgements about or propose solutions to business issues that have limited support using some quantitative or qualitative information. - address some of the demands of the question or investigation.

Applied General Science

Grade	Descriptor
Distinction	To achieve distinction, candidates will be able to: • show knowledge and understanding of the relevant subject material. There are few significant omissions in their knowledge and understanding. • use scientific terminology and conventions in their work fluently • select and present information where appropriate clearly. • apply scientific ideas to both familiar situations and unfamiliar situations. • identify and explain issues arising from scientific activities and discuss where appropriate their impact on society • evaluate the usefulness of various types of scientific articles • carry out straightforward calculations and generally obtain the correct solution • provide an accurate interpretation of data given.
Pass	To achieve pass, candidates will be able to: • show some knowledge and understanding of the relevant subject material. There are significant omissions in their knowledge and understanding. • use some scientific terminology and conventions in their work • select and present information sometimes in a limited manner. • apply scientific ideas to familiar situations but not unfamiliar situations. • describe and comment on issues arising from scientific activities • carry out straightforward calculations but not always be able to provide the correct solution • provide some correct interpretation of data given.

Level 2 Certificate in Further Mathematics

Grade	Descriptor
8	To achieve grade 8, candidates will be able to: • perform multi-step procedures accurately using knowledge and recall of the prescribed content • interpret and communicate complex information accurately using a wide range of mathematical techniques, terminology and diagrams • demonstrate complete algebraic fluency • make deductions and inferences, interpret results and draw conclusions • construct extended chains of mathematical reasoning, including convincing rigorous arguments, justifications and proofs • Apply reasoning and knowledge to solve complex mathematical problems by translating them into a series of mathematical processes • successfully tackle problems that bring together different aspects of mathematics, sometimes in non-standard situations
6	To achieve grade 6, candidates will be able to: • perform single and some multi-step procedures effectively using knowledge and recall of the prescribed content • interpret and communicate information accurately using mathematical techniques, definitions, facts and diagrams • demonstrate basic algebraic fluency • make simple deductions and inferences and make conclusions • demonstrate mathematical reasoning, including simple arguments and justifications • engage with mathematical problems by translating them into mathematical processes
5	To achieve grade 5, candidates will be able to: • perform single and simple, routine multi-step procedures effectively using knowledge and recall of the prescribed content • interpret and communicate information intelligibly using mathematical techniques, definitions, facts and diagrams • demonstrate basic algebraic techniques • make simple deductions and conclusions • demonstrate some mathematical reasoning by setting out the steps towards solving a straightforward problem or presenting a simple argument. • engage with straightforward mathematical problems by translating them into mathematical processes.

Level 3 Certificate in Mathematical Studies

Grade	Descriptor
A	Within the context of Level 3 Certificate Mathematical Studies, students demonstrate a good understanding and knowledge of the mathematical facts, concepts and techniques that are needed, drawing on the full range of defined and assumed content to carry out set tasks successfully. Students manipulate mathematical expressions and use graphs, sketches, tables and diagrams, all with high accuracy and skill. They use mathematical language and symbols correctly and effectively in representing situations mathematically. When confronted with unstructured problems, they can often devise and implement an effective solution strategy, communicating it appropriately and effectively. If errors are made in their calculations or logic, these are sometimes noticed and corrected. Students recall or recognise almost all the standard models and techniques that are needed, and select appropriate ones to represent a wide variety of situations in the real world. They correctly refer results from calculations using the model to the original situation; they give sensible interpretation of their results in the context of the original situation. Their responses include mathematical justifications, explaining their solutions to problems involving a number of features or variables. They make intelligent comments on the modelling assumptions and suggest possible refinements to the model. Students understand how almost all situations presented in the examination may be translated into mathematics. They correctly refer the results of calculations back to the given context and usually make sensible comments or predictions. They can distil the essential mathematical requirements from given data or other mathematical information. Students make appropriate and efficient use of contemporary calculator technology and other permitted resources, and are aware of any limitations to their use. They present results to an appropriate degree of accuracy without prompting.
C	Within the context of Level 3 Certificate Mathematical Studies, students generally demonstrate sound understanding and knowledge of the mathematical facts, concepts and techniques that are needed, drawing on a range of defined and assumed content to carry out tasks with a reasonable measure of success. Students manipulate mathematical expressions and use graphs, sketches, tables and diagrams, often with accuracy and skill. They generally use mathematical language and symbols correctly and effectively in representing situations mathematically and can often make some progress when confronted with unstructured problems, sometimes to a successful conclusion. Students recall many of the standard models and techniques that are needed, and often select appropriate ones to represent a variety of situations in the real world. When able to work through a problem to its conclusion they can correctly refer results from calculations to the original situation. At times they can refine their model and make intelligent comments about their assumptions and refinements. Students generally understand how situations presented in the examination may be translated into mathematics. They often correctly refer the results of calculations back to

	the given context and sometimes attempt to give comments or predictions. They can often distil the mathematical requirements from given data or other mathematical information.
	Students are familiar with contemporary calculator technology and can usually work out required values, although they may not always be able to accurately interpret their meaning in context. They usually present results to an appropriate degree of accuracy without prompting.
E	Within the context of Level 3 Certificate Mathematical Studies, students demonstrate some understanding and knowledge of the mathematical facts, concepts and techniques required, showing competence and confidence in applying assumed content and some technical fluency with the defined content. Students manipulate mathematical expressions and use graphs, sketches, tables and diagrams, all with some accuracy and skill. They sometimes use mathematical language correctly to represent situations and the processes they use in working through well-defined problems can be followed. Students recall or recognise some of the standard models and techniques that are needed and sometimes select appropriate ones to represent a variety of situations in the real world. They sometimes correctly refer results from calculations using the model to the original situation; they try to interpret their results in the context of the original situation, but make little comment on possible refinements to a model. Students sometimes understand how situations presented in the examination may be translated into mathematics. They sometimes correctly refer the results of calculations back to the given context and attempt to give comments or predictions. They distil some of the essential mathematical requirements from given data or other mathematical information. Students often make appropriate and efficient use of contemporary calculator technology and other permitted resources. They sometimes present results to an appropriate degree of accuracy without prompting.

Level 1/2 Technical Award in Performing Arts

Grade	Descriptor
Distinction	To achieve grade L2 Distinction, candidates will be able to: In practical work (performing/production roles): • Apply influences/relevant theory to their practice which enhances the quality of the outcome through a thorough application of relevant styles and approaches. • Undertake thoughtful and independent preparation/rehearsal where continuous evaluation leads to recognisable improvements. • Respond creatively and imaginatively to feedback and critical evaluation. • Demonstrate a high level of skill, expertise and control relevant to the chosen discipline. • Have a keen awareness of the aim/intention for the work and how it should impact on the target audience. The brief will be fully realised in all aspects. • In group endeavours, take on a leadership or facilitating role where the candidate's input is highly valuable to the creation of the final outcome. In written work: • Demonstrate an excellent and wide-ranging understanding of a range of aspects related to the performing arts industry as laid out in the specification. • Display appropriate and sophisticated technical language in connection to a range of aspects related to the performing arts industry as laid out in the specification. • Be able to creatively respond to simulated briefs/scenarios applying knowledge and understanding from their own experience, research into the performing arts industry and evaluations of other people's work. • Be able to critically reflect upon their own experiences with articulate evaluation/reflection, understanding how skills have been improved. • Explain their ideas with fluency and sophistication, using language confidently and adopting appropriate roles such as 'reviewer' or 'director'.
Pass	To achieve grade L2 Pass, candidates will be able to: In practical work (performing/production roles): • Be aware of styles and influences that may help to shape the work within a given genre or approach. Although this style or influence may not be fully controlled in the final outcome, it will enhance the quality of the work. • Undertake consistent and effective preparation/rehearsal where periodic evaluation leads to recognisable improvements. • Respond constructively to feedback and critical evaluation. • Demonstrate a competent level of skill, expertise and control relevant to the chosen discipline. • Have an understanding of the aim/intention for the work and how it will impact on the target audience. The brief is considered throughout the preparation period and the final outcome.

	• In group endeavours, take on a supportive or responsive role, where the candidate's input is valuable to the creation of the final outcome. In written work: • Demonstrate a competent and varied understanding of a range of aspects related to the performing arts industry as laid out in the specification. • Display appropriate and relevant technical language in connection to a range of aspects related to the performing arts industry as laid out in the specification. • Be able to respond to simulated briefs/scenarios applying knowledge and understanding from their own experience, research into the performing arts industry and evaluations of other people's work. • Be able to critically reflect upon their own experiences with competent evaluation/reflection, understanding how skills have been improved. • Explain their ideas with fluency and clarity, using language confidently and accurately.
Credit	To achieve grade L1 Credit, candidates will be able to: In practical work (performing/production roles): • Create work within broad parameters of style such as 'naturalistic' or 'non-naturalistic'. This may be more refined following guidance or suggestions. The impact of the style on the quality of the work may not be fully understood. • Undertake reasonably effective preparation / rehearsal supported by guidance and occasional suggestions. • Respond to feedback by making basic changes to the work. • Demonstrate a limited level of skill, expertise and control relevant to the chosen discipline. • Understand the aim / intention for the work and its suitability for the target audience. The brief is recognised but the extent to which the work fulfils the brief might not be fully appreciated. • In group endeavours, will work positively with some support and guidance. In written work: • Demonstrate a limited understanding of a range of aspects related to the performing arts industry as laid out in the specification. • Occasionally display relevant technical language in connection to a range of aspects related to the performing arts industry as laid out in the specification. Technical language might not always be used in the correct context. • Be able to respond to simulated briefs/scenarios by repeating experiences from earlier in the course rather than using the experience to imagine new alternatives. • Be able to recall their own experiences and explain what they did/achieved with a limited understanding of how skills had been improved. • Explain their ideas simply, with limited use of examples.

Tech Level 3 – Business Marketing
Foundation Technical Level Business: Marketing Communications

Grade	Descriptor
Distinction	To achieve DISTINCTION, candidates will be able to: • Demonstrate an excellent understanding of marketing concepts, theories and models. • Use marketing terminology consistently and appropriately with few errors. • Apply thorough knowledge of relevant theories/concepts/models to the context to fully develop logical chains of argument which address the problem in context. • Provide balanced arguments with supported judgements making relevant use of the information and context available. • Provide a clear justification whilst making effective use of the information and context available. • Demonstrate a clear focus on the question/problem throughout. • Select information which is wholly relevant to address the problem/question. • Understand clearly the significance of competing arguments and make appropriate justified recommendations in context. • Develop a range of balanced comparisons which evaluate the implications and consequences of the question/ problem. • Select and review findings of research from a wide variety of sources to support the evaluation of the question/ problem.
Pass	To achieve PASS, candidates will be able to: • Demonstrate a basic understanding of marketing concepts, theories and models. • Mostly use marketing terminology but with occasional errors or confusion. • Apply relevant theories/concepts/models to the context to attempt to develop logical chains of argument which address the problem. • Make judgements which are often unsupported and based on generic information. • Present arguments but these will tend to be one-sided . • Use information thought it may not be entirely relevant to the question/task. • Make limited use of the information/context available

	• Present limited arguments, though often failing to connect cause and effect.
	• Provide isolated descriptions and explanations.
	• Identify arguments from the question, but will often be generic in nature.
	• Judgement/ justification is not attempted.
	• Select and attempt to review findings from a limited variety of sources.

Technical Level Business: Marketing

Grade	Descriptor
Distinction	To achieve DISTINCTION, candidates will be able to: • Demonstrate an excellent understanding of marketing concepts, theories and models. • Use marketing terminology consistently and appropriately with few errors. • Apply thorough knowledge of relevant theories/concepts/models to the context to fully develop logical chains of argument which address the problem in context. • Provide balanced arguments with supported judgements making relevant use of the information and context available. • Provide a clear justification whilst making effective use of the information and context available. • Demonstrate a clear focus on the question/problem throughout. • Select information which is wholly relevant to address the problem/question. • Understand clearly the significance of competing arguments and make appropriate justified recommendations in context. • Develop a range of balanced comparisons which evaluate the implications and consequences of the question/ problem. • Select and review findings of research from a wide variety of sources to support the evaluation of the question/ problem.
Pass	To achieve PASS, candidates will be able to: • Demonstrate a basic understanding of marketing concepts, theories and models. • Mostly use marketing terminology but with occasional errors or confusion. • Apply relevant theories/concepts/models to the context to attempt to develop logical chains of argument which address the problem. • Make judgements which are often unsupported and based on generic information. • Present arguments but these will tend to be one-sided . • Use information thought it may not be entirely relevant to the question/task. • Make limited use of the information/context available • Present limited arguments, though often failing to connect cause and effect. • Provide isolated descriptions and explanations. • Identify arguments from the question, but will often be generic in nature. • Judgement/ justification is not attempted. • Select and attempt to review findings from a limited variety of sources.

Tech Level 3 – Engineering
Foundation Technical Level: Engineering

Grade	Descriptor
Distinction	To achieve DISTINCTION, candidates will be able to: • Demonstrate excellent knowledge and understanding of the principles, practices and legislation required to work to a high level in engineering. • Interpret and analyse a design brief in detail, showing understanding of a broad range of requirements from across the qualification content. • Consistently use appropriate technical terminology and standards and conventions with accuracy. • Interpret and analyse information to develop a detailed and comprehensive plan for an engineering activity that could credibly achieve an outcome which is highly fit for purpose. • Demonstrate excellent technical skills when carrying out design and manufacturing activities. • Demonstrate efficient and effective use of software/technology to produce detailed engineering drawings and control processes. • Apply relevant theory and understanding to provide efficient and effective solutions to complex and non-routine problems. • Assess risks and identify and implement safe working methods and practices, working safely at all times when applying practical skills. • Demonstrate excellent technical skills when carrying out engineering processes and activities. • Identify a range of measures of success for an engineering activity and evaluate in detail how successful they have been in meeting these measures. • Identify areas for improvement in their engineering activities and evaluate how these may affect the fitness for purpose of the outcome. • Produce outcomes of excellent quality that meets all the requirements of the engineering objective.
Pass	To achieve PASS, candidates will be able to: • Demonstrate basic knowledge and understanding of the principles, practices and legislation required to work in engineering. • Interpret and analyse a design brief, identifying the main requirements and explaining why these are important. • Mostly use technical terminology and engineering conventions accurately. • Interpret engineering information and develop a workable plan for an engineering activity to achieve an outcome that is fit for purpose. • Demonstrate adequate technical skills when carrying out design and manufacturing activities. • Demonstrate a basic use of software/technology to produce engineering drawings and control processes. • Apply relevant theory and understanding to solve non-routine problems.

	- Assess risks and follow safe working methods appropriately when applying practical skills, working safely at all times. - Demonstrate adequate skills when carrying out engineering processes and activities. - Identify the obvious measures of success for an engineering activity and evaluate how successful they have been in meeting these measures. - Achieve an outcome which successfully meets the key requirements of the engineering objective.

Technical Level Engineering: Design Engineering

Grade	Descriptor
Distinction	To achieve DISTINCTION, candidates will be able to: • Demonstrate excellent knowledge and understanding of the principles, practices and legislation required to work to a high level in engineering. • Interpret and analyse a design brief in detail, showing understanding of a broad range of requirements from across the qualification content. • Consistently use appropriate technical terminology and standards and conventions with accuracy. • Interpret and analyse information and develop detailed and comprehensive plans integrating multiple requirements to achieve an outcome from a design activity that could credibly be highly fit for purpose. • Demonstrate excellent technical skills when designing, developing and testing models and prototypes. • Demonstrate comprehensive use of software/ technology to model, evaluate and produce engineering drawings and simulations that meet the requirements of a brief. • Apply relevant theory and understanding to provide efficient and effective solutions to complex and non-routine problems. • Assess risks and identify and implement safe working methods and practices, working safely at all times and making justified decisions on the selection and appropriate use of processes, tools and manufacturing materials and components. • Demonstrate good skills when carrying out engineering processes and activities • Identify a range of subjective and objective measures of success for a design challenge and evaluate how successful they have been in meeting these measures. • Carry out evaluation systematically, focussing on relevant criteria and quality points. • Identify areas for improvement in their engineering solutions and evaluate how these may affect the fitness for purpose of the outcome. • Produce outcomes of excellent quality that meets all the requirements of the design criteria, regulations and standards.
Pass	To achieve PASS, candidates will be able to: • Demonstrate basic knowledge and understanding of the principles, practices and legislation required to work in engineering. • Interpret and analyse a design brief, identifying the main requirements and explaining why these are important. • Mostly use technical terminology and engineering conventions accurately. • Interpret information and develop a workable plan to achieve an outcome from a design activity that is fit for purpose. • Demonstrate adequate technical skills when designing, developing and testing models and prototypes, giving reasons for design decisions.

	- Demonstrate a basic use of software/ technology to model, evaluate and produce engineering drawings of potential solutions to a design challenge. - Apply relevant theory and understanding to solve non-routine problems. - Assess risks and follow safe working methods appropriately when applying practical skills, working safely at all times. - Demonstrate adequate skills when carrying out engineering processes and activities. - Identify the main measures of success for a design challenge and evaluate how successful they have been in meeting these measures. - Achieve an outcome which successfully meets the key requirements of a design brief.

Technical Level Engineering: Mechatronics Engineering

Grade	Descriptor
Distinction	To achieve DISTINCTION, candidates will be able to: • Demonstrate excellent knowledge and understanding of the principles, practices and legislation required to work to a high level in engineering. • Interpret and analyse a design brief in detail, showing understanding of a broad range of requirements from across the qualification content. • Consistently use appropriate technical terminology and standards and conventions with accuracy. • Interpret and analyse information and develop detailed and comprehensive plans integrating multiple requirements to achieve an outcome that could credibly be highly fit for purpose • Demonstrate excellent technical skills when designing engineering solutions. • Demonstrate comprehensive use of software/ technologies to efficiently and effectively carry out design activities and control manufacturing processes and mechanisms. • Apply relevant theory and understanding to provide efficient and effective solutions to complex and non-routine problems. • Assess risks and identify and implement safe working methods and practices, working safely at all times and making justified decisions on the selection and appropriate use of processes, tools and manufacturing materials and components. • Demonstrate excellent technical skills when carrying out engineering processes and activities. • Identify a range of subjective and objective measures of success for an engineering activity and evaluate how successful they have been in meeting these measures. • Carry out evaluation systematically, focussing on relevant criteria and quality points. • Identify areas for improvement in their engineering outcomes and evaluate how these may affect the fitness for purpose of the outcome. • Produce outcomes of excellent quality that meets all the requirements of the design criteria, regulations and standards.
Pass	To achieve PASS, candidates will be able to: • Demonstrate basic knowledge and understanding of the principles, practices and legislation required to work in engineering. • Interpret and analyse a design brief, identifying the main requirements and explaining why these are important. • Mostly use technical terminology and engineering conventions accurately. • Interpret information and develop a workable plan to achieve an outcome from an engineering activity that is fit for purpose.

| | | • Demonstrate adequate technical skills when designing engineering solutions.
• Demonstrates a basic use of software/ technology to carry out design activities and control manufacturing processes and mechanisms.
• Apply relevant theory and understanding to solve non-routine problems.
• Assess risks and follow safe working methods appropriately when applying practical skills, working safely at all times.
• Demonstrate adequate skills when carrying out engineering processes and activities.
• Identify the obvious measures of success for an engineering activity and evaluate how successful they have been in meeting these measures.
• Achieve an outcome which successfully meets the key requirements of the design criteria. |

Tech Level 3 – Entertainment Technology
Foundation Technical Level Entertainment Technology: Video Games Art and Mechanics

Grade	Descriptor
Distinction	To achieve DISTINCTION, candidates will be able to: • Demonstrate a breadth of knowledge and understanding of the games industry, setting up and running a games business, working in a games business and managing the production process of making games. • Effectively and consistently apply knowledge and understanding of the principles and concepts of 2D and 3D art by producing a range of complex games assets. • Effectively analyse problems and conduct comprehensive research in order to plan a project. • Demonstrate a consistent ability to use the constraints of a brief to design, produce and critically reflect upon a complex 3D environment. • Apply a comprehensive understanding of game theory and mechanics to develop a complex gameplay concept.
Pass	To achieve PASS, candidates will be able to: • Demonstrate knowledge and understanding of the games industry, setting up and running a games business, working in a games business and managing the production process of making games. • Apply knowledge and understanding of the principles and concepts of 2D and 3D art by producing a range of complex games assets. • Analyse problems and conduct comprehensive research in order to plan a project. • Demonstrate an ability to use the constraints of a brief to design, produce and critically reflect upon a complex 3D environment. • Apply an understanding of game theory and mechanics to develop a gameplay concept.

Technical Level Entertainment Technology: Video Games Art and Animation

Grade	Descriptor
Distinction	To achieve DISTINCTION, candidates will be able to: • Demonstrate a breadth of knowledge and understanding of the games industry, setting up and running a games business, working in a games business and managing the production process of making games. • Effectively and consistently apply knowledge and understanding of the principles and concepts of 2D and 3D art by producing a range of complex games assets. • Effectively analyse problems and conduct comprehensive research in order to plan a project. • Demonstrate a consistent ability to use the constraints of a brief to design, produce and critically reflect upon a complex 3D environment. • Apply a comprehensive understanding of game theory and mechanics to develop a complex gameplay concept. • Consistently follow creative processes to plan and develop a range of concept art. • Demonstrate a comprehensive understanding of animation tools and techniques to produce a series of character and environment animations for use within a games engine.
Pass	To achieve PASS, candidates will be able to: • Demonstrate knowledge and understanding of the games industry, setting up and running a games business, working in a games business and managing the production process of making games. • Apply knowledge and understanding of the principles and concepts of 2D and 3D art by producing a range of complex games assets. • Analyse problems and conduct comprehensive research in order to plan a project. • Demonstrate an ability to use the constraints of a brief to design, produce and critically reflect upon a complex 3D environment. • Apply an understanding of game theory and mechanics to develop a gameplay concept. • Follow creative processes to plan and develop a range of concept art. • Demonstrate an understanding of animation tools and techniques to produce a series of character and environment animations for use within a games engine.

Grade	Descriptor
Distinction	To achieve DISTINCTION, candidates will be able to: • Demonstrate a breadth of knowledge and understanding of the games industry, setting up and running a games business, working in a games business and managing the production process of making games. • Effectively and consistently apply knowledge and understanding of the principles and concepts of 2D and 3D art by producing a range of complex games assets. • Effectively analyse problems and conduct comprehensive research in order to plan a project. • Demonstrate a consistent ability to use the constraints of a brief to design, produce and critically reflect upon a complex 3D environment. • Apply a comprehensive understanding of game theory and mechanics to develop a complex gameplay concept. • Consistently follow creative processes to plan and develop a range of concept art. • Demonstrate a comprehensive understanding of animation tools and techniques to produce a series of character and environment animations for use within a games engine. • Demonstrate a breadth of knowledge and understanding of the creation and storage of digital media. • Demonstrate an awareness of the implications of digital rights management and intellectual property rights and how to work within them. • Apply a comprehensive understanding of level design theory in order to take a level from idea through to playable concept, with the use of engine tools and scripting.
Pass	To achieve PASS, candidates will be able to: • Demonstrate knowledge and understanding of the games industry, setting up and running a games business, working in a games business and managing the production process of making games. • Apply knowledge and understanding of the principles and concepts of 2D and 3D art by producing a range of complex games assets. • Analyse problems and conduct comprehensive research in order to plan a project. • Demonstrate an ability to use the constraints of a brief to design, produce and critically reflect upon a complex 3D environment. • Apply an understanding of game theory and mechanics to develop a gameplay concept. • Follow creative processes to plan and develop a range of concept art. • Demonstrate an understanding of animation tools and techniques to produce a series of character and environment animations for use within a games engine. • Demonstrate knowledge and understanding of the creation and storage of digital media.

	• Demonstrate an awareness of the implications of digital rights management and intellectual property rights.
	• Apply an understanding of level design theory in order to take a level from idea through to playable concept, with the use of engine tools and scripting.

Technical Level Entertainment Technology: Video Games Art and Design

Production

Grade	Descriptor
Distinction	To achieve DISTINCTION, candidates will be able to: • Demonstrate a breadth of knowledge and understanding of the games industry, setting up and running a games business, working in a games business and managing the production process of making games. • Effectively and consistently apply knowledge and understanding of the principles and concepts of 2D and 3D art by producing a range of complex games assets. • Effectively analyse problems and conduct comprehensive research in order to plan a project. • Demonstrate a consistent ability to use the constraints of a brief to design, produce and critically reflect upon a complex 3D environment. • Apply a comprehensive understanding of game theory and mechanics to develop a complex gameplay concept. • Consistently follow creative processes to plan and develop a range of concept art. • Demonstrate a comprehensive understanding of animation tools and techniques to produce a series of character and environment animations for use within a games engine. • Demonstrate a breadth of knowledge and understanding of the creation and storage of digital media. • Demonstrate an awareness of the implications of digital rights management and intellectual property rights and how to work within them. • Apply a comprehensive understanding of level design theory in order to take a level from idea through to playable concept, with the use of engine tools and scripting. • Effectively analyse the constraints of a brief to design and produce a character model and reflect on the quality of the developed character. • Apply a comprehensive understanding of user interface design theory in order to create a fully functioning user interface in a games engine. • Demonstrate an effective ability to record original sounds, produce soundtracks and evaluate game audio production processes. • Effectively work within a role to collaboratively develop a vertical slice of a game.

Pass	To achieve PASS, candidates will be able to: • Demonstrate knowledge and understanding of the games industry, setting up and running a games business, working in a games business and managing the production process of making games. • Apply knowledge and understanding of the principles and concepts of 2D and 3D art by producing a range of complex games assets. • Analyse problems and conduct comprehensive research in order to plan a project. • Demonstrate an ability to use the constraints of a brief to design, produce and critically reflect upon a complex 3D environment. • Apply an understanding of game theory and mechanics to develop a gameplay concept. • Follow creative processes to plan and develop a range of concept art. • Demonstrate an understanding of animation tools and techniques to produce a series of character and environment animations for use within a games engine. • Demonstrate knowledge and understanding of the creation and storage of digital media. • Demonstrate an awareness of the implications of digital rights management and intellectual property rights. • Apply an understanding of level design theory in order to take a level from idea through to playable concept, with the use of engine tools and scripting. • Analyse the constraints of a brief to design and produce a character model and reflect on the quality of the developed character. • Apply an understanding of user interface design theory in order to create a fully functioning user interface in a games engine. • Demonstrate an ability to record original sounds, produce soundtracks and evaluate game audio production processes. • Work within a role to collaboratively develop a vertical slice of a game.

Tech Level 3 – IT
Foundation Technical Level IT: Technical Support

Grade	Descriptor
Distinction	To achieve DISTINCTION, candidates will be able to: • demonstrate a comprehensive range of knowledge and clear understanding of the fundamental principles of computing and communication technologies including how devices of different types communicate in a range of situations • apply a range of core knowledge and understanding of computer networks and methodologies to develop and test a network for a defined need including evaluation of the testing process • demonstrate a comprehensive range of core knowledge and clear understanding of IT technical support including how computers and networks are built and maintained, identifying preventative maintenance activities • effectively apply a wide range of fundamental concepts to support end users in solving computer and network-related issues, justifying the choice of network architecture and evaluating the effectiveness of the support provided • apply, to a wide range of work-related tasks using appropriate tools and different types of network technologies, skills of diagnosis and resolution to help and support end users, evaluating the testing process and justifying the solutions selected • demonstrate the ability to research a problem and design and develop a solution using appropriate oral and written communication standards and evaluate the effectiveness of the communication used • identify and use effectively, in an integrated way from across the whole qualification, an appropriate selection of skills, techniques, concepts, theories, and knowledge which are relevant to a key task.
Pass	To achieve PASS, candidates will be able to: • demonstrate a range of appropriate knowledge and understanding of the fundamental principles of computing and communication technologies including how devices communicate • apply core knowledge and understanding of computer networks and methodologies to develop and test a simple network • demonstrate a range of core knowledge and understanding of IT technical support including how computers and networks are built and maintained • apply a range of fundamental concepts to support end users in solving computer and network related issues and describe different types of network architecture • apply, to work-related tasks using appropriate tools, skills of diagnosis and resolution to help and support end users • demonstrate some ability to research a problem and design a solution using appropriate oral and written communication standards

| | • use an appropriate range of skills, techniques, concepts, theories, and/or knowledge from across the whole qualification, which are relevant to a key task. |

Technical Level IT: User support

Grade	Descriptor
Distinction	To achieve DISTINCTION, candidates will be able to: • demonstrate a comprehensive range of knowledge and clear understanding of the language and concepts of organisational systems security including legal and ethical obligations • apply a comprehensive range of knowledge, in the selection of tools, to plan and document an installation or upgrade and demonstrate effective communication with stakeholders at all stages • demonstrate a range of appropriate skills in order to install or upgrade software and firmware and use utility software to complete maintenance activities and improve system performance • apply a range of knowledge and understanding to evaluate the reasons for software installation and the risks involved, with reference to existing configurations and compatibility • demonstrate comprehensive and clear understanding of the principles of computer forensic investigation including the risks associated with hardware, software and file systems • demonstrate the ability to plan, appropriately document and carry out a computer forensic investigation, effectively presenting the evidence and interpreting the results • apply a comprehensive range of research skills to a problem and present key findings using appropriate oral and written communication standards • demonstrate an ability to effectively review collaborative working as part of a team and an understanding of effective non-verbal communication • apply a comprehensive understanding of the project planning process to plan and discuss a solution, justifying the deliverables and any changes required, to meet a specified outcome for a user or client • identify and use an appropriate range of skills, techniques, concepts, theories, and/or knowledge, from across the whole qualification, which are relevant to a key task.
Pass	To achieve PASS, candidates will be able to: • demonstrate a range of appropriate knowledge and understanding of the language and concepts of organisational systems security including legal and ethical obligations • apply core knowledge, in the selection of tools, to plan and document an installation or upgrade and explain a range of reasons for software installation and the risks involved

	• demonstrate a range of appropriate skills in order to install or upgrade software and firmware and use utility software to complete maintenance activities and improve system performance • demonstrate a range of understanding of the principles of computer forensic investigation including the risks associated with hardware, software or file systems • demonstrate the ability to plan, document, carry out and present the evidence and outcome of a computer forensic investigation • apply a range of research skills to a problem and present key findings using appropriate oral and written communication standards • demonstrate an ability to review collaborative working as part of a team and an understanding of the project planning process • apply a range of project planning skills to plan a solution to meet a specified outcome for a user or client • use an appropriate range of skills, techniques, concepts, theories, and/or knowledge, from across the whole qualification, which are relevant to a key task.

Technical Level IT: Networking

Grade	Descriptor
Distinction	To achieve DISTINCTION, candidates will be able to: • demonstrate clear understanding of number systems and logic used by operating systems, networks and programmers • apply a comprehensive range of mathematical concepts, contextualised for networking and computing, including relevant conversions and design solutions for set logical tasks and problems • demonstrate an understanding of how data is gathered, interpreted and represented, identifying trends and patterns in data sets to prove a hypothesis • demonstrate a comprehensive range of knowledge and clear understanding of the language and concepts of network security management including hardware and software • apply suitable strategies for secure installation and maintenance of networks and analyse and develop a network security plan • demonstrate a detailed understanding of the infrastructure of the Internet including digital footprints and privacy issues, evaluating social implications and the impact of big data • apply a comprehensive range of research skills to a problem and present key findings using appropriate oral and written communication standards • demonstrate an ability to effectively review collaborative working as part of a team and an understanding of effective non-verbal communication • apply a comprehensive understanding of the project planning process to plan and discuss a solution, justifying the deliverables and any changes required, to meet a specified outcome for a user or client

		• demonstrate a detailed understanding of the legal and operational requirements surrounding network security including the legal and financial implications of copyright, file sharing, intellectual property and plagiarism, including on the creative industries • identify and use an appropriate range of skills, techniques, concepts, theories, and/or knowledge, from across the whole qualification, which are relevant to a key task
Pass		To achieve PASS, candidates will be able to: • demonstrate understanding of number systems and logic used by operating systems, networks and programmers • apply a range of mathematical concepts, contextualised for networking and computing, including relevant calculations and methods to solve problems • demonstrate an understanding of how data is gathered, interpreted and represented, comparing data sets in a meaningful manner • demonstrate a range of appropriate knowledge and understanding of the language and concepts of network security management including hardware and software • demonstrate the ability to produce strategies for the installation and maintenance of computer networks and describe the contents of a network security plan • demonstrate an understanding of the infrastructure of the Internet including digital footprints and privacy issues • apply a range of research skills to a problem and present key findings using appropriate oral and written communication standards • demonstrate an ability to review collaborative working as part of a team and an understanding of the project planning process • apply a range of project planning skills to plan a solution to meet a specified outcome for a user or client • demonstrate an understanding of the legal and operational requirements surrounding network security including the legal and financial implications of copyright, file sharing, intellectual property and plagiarism • use an appropriate range of skills, techniques, concepts, theories, and/or knowledge, from across the whole qualification, which are relevant to a key task.

Foundation Technical Level IT: Cyber security

Grade	Descriptor
Distinction	To achieve DISTINCTION, candidates will be able to: • demonstrate a comprehensive range of knowledge and clear understanding of the fundamental principles of computing and communication technologies including how devices of different types communicate in a range of situations • apply a range of core knowledge and understanding of computer network types to develop, test and maintain a network, evaluating the effectiveness of the testing process and tools • demonstrate a comprehensive range of core knowledge and clear understanding of how to keep track of network threats and vulnerabilities including preventative maintenance activities • effectively apply a wide range of fundamental concepts to analyse network-related issues and justify the choice of network architecture • apply, using a wide range of testing techniques and appropriate security testing tools, skills of identification and resolution of a range of network threats and vulnerabilities, evaluating the testing process • demonstrate ability to counteract threats to a network and present findings using appropriate oral and written communication standards • identify and use an appropriate range of skills, techniques, concepts, theories, and/or knowledge, from across the whole qualification, which are relevant to a key task.
Pass	To achieve PASS, candidates will be able to: • demonstrate a range of appropriate knowledge and understanding of the fundamental principles of computing and communication technologies including how devices communicate • demonstrate a range of core knowledge and understanding of a range of computer network types to develop, test and maintain a simple network • demonstrate a range of core knowledge and understanding of how to keep track of network threats and vulnerabilities • apply a range of fundamental concepts to analyse network related issues and describe different types of network architecture • apply, using a range of testing techniques and appropriate security testing tools, skills of identification and resolution of a range of network threats and vulnerabilities • demonstrate some ability to counteract threats to a network and present findings using appropriate oral and written communication standards • use an appropriate range of skills, techniques, concepts, theories, and/or knowledge, from across the whole qualification, which are relevant to a key task.

Technical Level IT: Cyber security and Security Administration

Grade	Descriptor

Distinction	To achieve DISTINCTION, candidates will be able to:
	
	• demonstrate a comprehensive range of knowledge and clear understanding of network and cyber security administration including how incidents are managed
	• apply a comprehensive range of core knowledge and understanding of the threats, defences and strategies that can be effective in securing a network including evaluating how network security plans contribute to secure systems
	• demonstrate clear understanding of number systems and logic used by operating systems, networks and programmers
	• apply a comprehensive range of mathematical concepts, contextualised for networking and computing, including relevant conversions and design solutions for set logical tasks and problems
	• demonstrate an understanding of how data is gathered, interpreted and represented, identifying trends and patterns in data sets to prove a hypothesis
	• demonstrate comprehensive and clear understanding of management frameworks and evaluate legal issues and standards affecting security, including potential conflicts with personal privacy
	• demonstrate a clear understanding of a range of methods and controls used to ensure data integrity and security including some evaluation of different methods
	• apply a range of practical knowledge of security measures to protect organisational systems and data including measures which can benefit a selected system
	• identify and use an appropriate range of skills, techniques, concepts, theories, and/or knowledge, from across the whole qualification, which are relevant to a key task.
	
	Depending on the optional unit chosen
	
	either
	
	    For Computer Forensic Investigation:
	
	• demonstrate a comprehensive and clear understanding of the principles of computer forensic investigation including the risks associated with hardware, software and file systems
	• demonstrate the ability to effectively plan, document, carry out, review and present the evidence and outcome of a computer forensic investigation
	
	or
	
	    For Programming for Networking and Security:
	
	• demonstrate a comprehensive and clear understanding of the tools, features and techniques used for planning, designing and developing computer programs and evaluate the importance of project reviews

	- identify a comprehensive range of key features and functions of client-side and server-side scripting languages and perform a range of scripting modifications - identify a wide range of vulnerabilities and show detailed understanding of how to counteract threats on a range of platforms and applications - identify a comprehensive range of key features and functions of operating system shell scripting, data security and encryption, applying their knowledge of encryption by using and contrasting different techniques.

Pass	To achieve PASS, candidates will be able to:
	   - demonstrate a range of appropriate knowledge and understanding of network and cyber security administration including how incidents are managed - apply core knowledge and understanding of the threats, defences and strategies that can be effective in securing a network including descriptions of how network security plans contribute to secure systems - demonstrate understanding of number systems and logic used by operating systems, networks and programmers - apply a range of mathematical concepts, contextualised for networking and computing, including relevant calculations and methods to solve problems - demonstrate an understanding of how data is gathered, interpreted and represented, comparing data sets in a meaningful manner - demonstrate a range of understanding of management frameworks including legal issues and standards affecting security - identify a range of methods and controls used to ensure data integrity and security - apply practical knowledge of security measures to protect organisational systems and data - use an appropriate range of skills, techniques, concepts, theories, and/or knowledge, from across the whole qualification, which are relevant to a key task.
	Depending on the optional unit chosen
	
	either
	
	    For Computer Forensic Investigation:
	   - demonstrate a range of understanding of the principles of computer forensic investigation including the risks associated with hardware, software or file systems - demonstrate the ability to plan, document, carry out and present the evidence and outcome of a computer forensic investigation
	or
	
	    For Programming for Networking and Security:
	   - demonstrate a range of understanding of the tools, features and techniques used for planning, designing and developing computer programs - identify a range of key features and functions of client-side and server-side scripting languages and perform a range of scripting modifications

	- identify a range of vulnerabilities and show some understanding of how to counteract threats on a range of platforms and applications - identify key features and functions of operating system shell scripting, data security and encryption.

Foundation Technical Level IT: Scripting and App Programming

Grade	Descriptor
Distinction	To achieve DISTINCTION, candidates will be able to: • demonstrate a comprehensive range of knowledge and clear understanding of the fundamental principles of computing and programming including the theory associated with programming solutions • design and build interactive websites and cloud-based applications that demonstrate client-side and server-side technologies to meet a defined client need, evaluating the use of visual themes that enhance the user experience • apply core knowledge and understanding of the key features and functions of a wide range of website technologies and assess the importance of HTML forms, web standards and market share • identify vulnerabilities and understand how to counteract threats to a wide range of website technologies, justifying which attack vectors pose the most vital threat • apply a comprehensive range of key features and functions, including complex third-party functions, of mobile application programming languages to develop solutions and assess a range of different methods of distribution for mobile applications • design and build high-quality coded applications for mobile devices using appropriate tools and good working practice, justifying the accessibility adaptations made • create and deploy a working mobile application, using cross platform development, and use client feedback to identify an effective update and maintenance strategy.
Pass	To achieve PASS, candidates will be able to: • demonstrate a range of appropriate knowledge and understanding of fundamental principles of computing and programming including the theory associated with programming solutions • design and build interactive websites and cloud-based applications that demonstrate client-side and server-side technologies to meet client needs • apply core knowledge and understanding of the key features and functions of website technologies including visual themes • identify vulnerabilities and show some understanding of how to counteract threats to a range of website technologies • apply a range of key features and functions of mobile application programming languages to develop a solution, including the methods used for distribution of the application • design and build coded applications for mobile devices using appropriate tools and good working practice • create and deploy a working mobile application using cross platform development.

Technical Level IT: Programming

Grade	Descriptor
Distinction	To achieve DISTINCTION, candidates will be able to: • demonstrate a comprehensive range of knowledge and clear understanding of mathematics for programmers including concepts that enable computers to store, process, communicate and transmit data • apply a comprehensive range of key features and functions, including complex third-party functions, of event-driven programming languages to a high standard • apply detailed understanding of event-driven programming to design and build, using appropriate design tools, high-quality coded solutions that clearly meet a defined user need • use appropriate debugging tools to identify and resolve programming faults, using client feedback to create an effective maintenance and update strategy • apply a comprehensive range of research skills to a problem and present key findings using appropriate oral and written communication standards • demonstrate an ability to effectively review collaborative working as part of a team and an understanding of effective non-verbal communication • apply a comprehensive understanding of the project planning process to plan and discuss a solution, justifying the deliverables and any changes required, to meet a specified outcome for a user or client • identify and use an appropriate range of skills, techniques, concepts, theories, and/or knowledge, from across the whole qualification, which are relevant to a key task.
Pass	To achieve PASS, candidates will be able to: • demonstrate a range of appropriate knowledge and understanding of mathematics for programmers including concepts that enable computers to store, process, communicate and transmit data • apply a range of key features and functions of event-driven programming languages • apply understanding of event-driven programming to design and build, using appropriate design tools, high-quality coded solutions that meet user needs • use appropriate debugging tools to identify and resolve programming faults • apply a range of research skills to a problem and present key findings using appropriate oral and written communication standards • demonstrate an ability to review collaborative working as part of a team and an understanding of the project planning process • apply a range of project planning skills to plan a solution to meet a specified outcome for a user or client • use an appropriate range of skills, techniques, concepts, theories, and/or knowledge, from across the whole qualification, which are relevant to a key task.