

LEVEL 6 ASSESSMENT SPECIFICATION

Student name:		Student ID number:	
Programme:			
Module:	Data Warehousing & Data Mining		
Module code:	ACCA6026	Contribution to Overall Module Assessment (%):	50%
Lecturer:	Prof. Nik Whitehead	Internal Verifier:	Divya Chidambaram
Assignment Title:	Data Warehousing	Word count (or equivalent):	2500
Submission deadline:	TBD	Return date of provisional marks & written feedback:	20 working days after submission date
Submission method:	All written assessments, where practical and possible, must be submitted via Turnitin unless otherwise instructed by the Lecturer. (Please DO NOT put this assessment specification into Turnitin or it will match many similarities with other students' submissions.) Alternative submission method (if applicable): Late submission of the assessment will result in a late penalty mark: Work which is submitted up to 1 week late will be capped at 40% for the first attempt and will be awarded a mark of 0% for re-assessment. Late submission penalties may be lifted only if there is an approved extenuating circumstances claim. Work submitted more than 1 week late will be considered as a non-submission and will not be marked. The work may be considered as a submission for reassessment if offered by an Examining Board or if there is an approved extenuating circumstances claim.		
Academic honesty / referencing:	Academic honesty is required. In the main body of your submission you must give credit to authors on whose research and ideas your work is based. Append to your submission a reference list that indicates the books, articles, etc. that you have used, cited or quoted in order to complete this assessment.		

Module Learning Outcomes (from module syllabus)

- Analyse critically the structure, capabilities and role of a data warehouse within a modern business environment.
- Select and perform appropriate data analysis and reporting on data within a data warehouse environment and critically evaluate the results
- Provide business intelligence through the creative application of appropriate data mining processes and the critical evaluation of their results.

TASK DESCRIPTION

Case Study: Rags'n'Riches

'Rags'n'Riches Ltd.' is an independent company that provides prop and costume hire to theatres and film production units. Customers may contact them to hire anything from a single expensive or hard-to-source prop for a film to a complete set of costumes and props for a stage production. Their clients range from local amateur dramatics companies to the big Hollywood film studios and everything in between. The company was formed in the UK in 1923 as a supplier of theatrical costumes but expanded their range in the late 1940s to supply costumes and props to the now-thriving film industry. The company's annual revenue last year was £12.8M with a profit of £2.1M. The company's main administrative office is in Raglan, South Wales, but they have six UK warehouses in Abergavenny, Blackburn, Colchester, Durham, Evesham and Freuchie.

In the hope that UK government will provide significant tax breaks for film companies to encourage them to shoot in the UK, the Rags'n'Riches board has recognised the need for the company to rationalise its operations in order to improve its profits. The senior officers are smart enough to recognise that this will include a major review of their IT systems to support the increase in business that they hope will occur. Your job is to carry out this review and to present a report to the CEO and the board on the data capture, storage, analysis and presentation of the data necessary to effectively run a multi-site rental business. This will allow them to make better strategic decisions relating to the future growth of the company.

Each warehouse specialises in one facet of the company's materials, although there is common core of props and costumes that are duplicated at each warehouse. The specialisations are:

- Abergavenny: Pantomime costumes
- Blackburn: Present-day costumes
- Colchester: Large props (such as vehicles and furniture)
- Durham: Historical costumes
- Evesham: Militaria
- Freuchie: Small props

Each individual prop or costume can be uniquely identified using an ID code which allows its location to be tracked throughout its time with the company. Items are also recorded as being 'common core' or 'specialist', and its home location. When the item is out on rental its record also shows the ID code for the person or company that has rented it. Each item has a daily rental cost, and rentals are only calculated in full day increments.

Rags'n'riches offers a range of different rental schemes to their clients:

- Complete sets of costumes for a particular production. These include costumes for all major characters and the chorus, and these are commonly rented by local theatre groups for things like pantomimes and Gilbert & Sullivan productions. Each set has a number of costumes, together with appropriate small props such as swords, crowns and the like. For particularly large productions clients can order extras of many of the individual costumes. The basic set has a fixed cost that is lower than ordering the costumes separately, and each additional costume added to the order receives a 10% discount on the individual costume price.
- Individual costumes for major characters. These are priced individually.
- Sets of related costumes, such as matching military uniforms. Pricing is per costume, but with a discount of 10% if more than 4 costumes of the same type are ordered.
- Room in a box. These sets include a range of props designed to decorate particular locations, e.g. an 18th century drawing room or a space station bunk room. Like the complete sets of costumes, these boxes have a fixed cost and can have extra items added to them at 10% discount on the normal item price.
- Individual items. These can range from small decorative items such as jewellery to large vehicles such as armoured cars. Each item is priced individually.

- 'Emergency' items. Normally Rags'n'Riches requires 14 days notice to arrange for items to be delivered to their clients. If an item is required at short notice then this can be arranged but a 15% surcharge is added to the cost, as are any extra transport costs.

All rental costs are charged per day, but clients undertaking large productions like films can choose to stagger the start and end date of the rental so as to save money when filming differing things at different times rather than rent through the entire filming period. All rented items will be delivered by a Rags'n'Riches driver in an appropriately-sized car or van, and the delivery charge for all normal orders will be based on the distance to the closest Rags'n'Riches warehouse. Staggered deliveries are charged per delivery/pickup date.

When an order comes in, a Rags'n'Riches staff member enters the order into the orders database and then checks to see if everything on the order can be fulfilled by the same warehouse. If it cannot then an internal stock movement order is raised and sent to the transport department's databases, with instructions to transport all of the required items to the closest warehouse to the filming location. All items are located, checked, and sent to this warehouse no less than seven days before the delivery date. Once all items have arrived they are checked for damage during transport and packaged ready for delivery, and an inventory printed out to go with the transport(delivery) order. On delivery, the client must sign to agree that all items on the inventory have been delivered. This agreement is recorded on the delivery database, which then passes the delivery date confirmation back to the orders system.

When the rental period is over a new transport(return) order is raised on the transport system, and a Rags'n'Riches team will arrive on site to check and pack the returning items. Any damage is noted for future processing. The items are returned to the local warehouse then forwarded to their home warehouses as appropriate. Any items that are damaged beyond repair will be noted and may be written off, in which case the client will have to pay the replacement cost of the item. All inventory and damage checks, and the employees who made those checks, are recorded on a tablet and the data uploaded to the company's database system via wifi/4G/5G link.

Orders are entered into the computer system immediately they are made, and a confirmation is immediately sent to the client. A further communication is sent two days before the delivery date to confirm what will be delivered that day and when it will arrive. For orders below £10,000 invoices are sent within seven days of the final item in an order being returned to the company, and clients are expected to pay these invoices within seven days. Each invoice is itemised, showing the rental cost of each item, any discounts or surcharges, and also shows the delivery costs. For larger orders, the initial confirmation also contains an initial invoice for the first 50% of the overall cost, which must be paid before the delivery date. The remainder is then expected within seven days of receiving the final invoice once the items have been returned.

As well as having staff who specifically look for new and potentially useful props, Rags'n'Riches warehouse personnel are encouraged to let the acquisitions staff know if they see anything that they think might be of interest to the company. As a result, the company regularly acquires new items which must then be recorded on the orders database and, if necessary, shipped to the correct workshop (raising an appropriate stock movement order)

The company is very conscious of its delivery costs, and has arranged for all company drivers to use fuel cards for company vehicles. The distance covered by each vehicle is also recorded so that fuel costs can be controlled.

Every month the finance team runs a report for senior management that shows the incomings and outgoings for the month. They also provide reports on which items are proving particularly popular or profitable, and any new acquisitions or stock write-offs that have occurred during that time. This allows them to make decisions to specifically buy new items or to sell off items that are no longer profitable.

Using the above scenario, you should write a report that addresses the tasks provided below. This should be appropriately referenced and contain such diagrams as are necessary to each section. You should frame your answer based upon the case study company and their specific needs. Some background information is required in places but try to keep your focus on the case study rather than giving a general answer.

This assignment assesses the first and second learning outcomes.

Task 1 (50% - 1250 words)

Imagine that you are a data warehousing consultant who has been asked to provide a report to the chief executive and board of directors of the above company on the following technical issues. The CEO and the directors are not computing specialists but have been advised that a data warehouse might be suitable for their organisation.

1.1: Discuss the difference between an online transaction processing (OLTP) database and a data warehouse. The company already has a working OLTP system and the CEO needs to learn the benefits that investing in a data warehouse system will bring to their company.

(10 marks – 250 words)

1.2: Explain, with the aid of appropriate diagrams, the architecture of a data warehouse and its source systems. Show how the different internal and external sources of data can be used to populate a data warehouse. The CEO has heard the term 'ETL' but does not understand it, so they will need to be convinced that this will not affect the data-to-day operations of the company.

(15 marks – 375 words)

1.3: The managing director, finance director, and the sales and marketing director have their own specific needs in terms of seeing relevant data to allow them to make well-founded management decisions. Explain how data marts may be used to provide targeted information for these managers and their departments.

(15 marks – 375 words)

1.4: The IT director knows a lot about OLTP systems but little about data warehousing. Explain to them the difference between the 'normalised' structure of an OLTP system and the 'dimensional' structure of a data warehouse. Use a suitable diagram to explain how facts and dimensions can be used to develop a suitable star schema for their system. N.b. As this is a management report you do not need to develop the entire schema at this state but should instead use examples related to the company's data to illustrate the concepts involved.

(10 marks – 250 words)

Task 2 (50% - 1250 words)

The CEO and the board have been convinced that a data warehouse is the way forward for their company and you have been employed as a contractor to support the company in its development of the new data warehouse solution. You should now produce a report that develops and describes a suitable star schema for the company's new data warehouse. This should include the following elements:

2.1: Identification of internal and external source systems

(5 marks – 125 words)

2.2: An appropriate star schema (which may include multiple stars) for the system which includes and clearly shows tables for master data, metadata and aggregate data.

(20 marks – 500 words)

2.3: Identification of appropriate data marts, and the schema for data that would be extracted to each data mart

(10 marks – 250 words)

2.4: A simplified ETL plan that describes where the data for each table will be sourced and what, if any, transformations need to be applied to that data before it can be loaded into the data warehouse.

(10 marks – 125 words)

2.5: A discussion of the main data quality and information governance issues that need to be considered both during the ETL process and during the normal operation of the new data warehouse system.

(5 marks – 75 words)

All design decisions should be explained and justified with reference to the literature. Suggested wordcounts for each section are given above.

A word on the use of ChatGPT and similar generative AI systems

As you work on your assignments, you may be considering using generative AI for background research. It is acceptable to use these tools as a resource, but it is important to be aware that they often make mistakes and may not be completely accurate, particularly when asked for references. You must remember that as a student **you** are ultimately responsible for anything you submit, and relying solely on generative AI could lead to your work getting a lower grade than you are capable of, or your work being investigated for academic malpractice. Copying and pasting text directly from these tools without proper citation or attribution is not only unethical but could also result in serious consequences such as failing the assignment or even being expelled from the university.

It is therefore crucial to use generative AI only as a starting point and then verify and fact-check any information you obtain. You should also ensure that any work you submit reflects your own understanding and originality, and that you properly reference any sources you use.

You may use these tools, but you must use them ethically, and you should always strive for academic honesty and integrity.

Use of Generative AI in Assessment

(Lecturer to indicate Yes or Not against each element)

RESEARCH	For this assessment, you can use Generative AI to support you in research and data analysis.	Yes ☒ No ☐
STRUCTURE	For this assessment, you can use Generative AI to support you in structuring your submission, including creating a draft argument structure, identifying parts and headings, etc.	Yes ☒ No ☐
PROOFREADING	For this assessment, you can use Generative AI to check your own text/creation for grammatical and syntactical mistakes, including getting suggestions to rephrase your work.	Yes ☒ No ☐
WRITING	For this assessment, you can use Generative AI to create text for submission.	Yes ☐ No ☒
CREATIVE	For this assessment, you can use Generative AI to create creative materials, such as images.	Yes ☐ No ☒
PROGRAMING	For this assessment, you can use Generative AI to create and check code.	Yes ☐ No ☒
NONE	For this assessment, you are not allowed to use any type of Generative AI support. This includes research support, structure support, writing/proofreading support and creative support.	☐

GUIDANCE FOR STUDENTS IN THE COMPLETION OF TASKS

NOTE: The guidance offered below is linked to the five generic assessment criteria overleaf.

1. Engagement with Literature Skills

Your work must be informed and supported by scholarly material that is *relevant* to and *focused* on the task(s) set; you should make use of scholarly reviews and primary sources, where appropriate (for example, refereed research articles and/or original materials appropriate to the discipline). You should provide evidence that you have accessed a wide *range* of sources, which may be academic, governmental and industrial; these sources may include academic journal articles, textbooks, current news articles, organisational documents, and websites. You should consider the *credibility* of your sources; academic journals are normally highly credible sources while websites require careful consideration/selection and should be used sparingly. Any sources you use should be current and up-to-date, mostly published within the last five years or so, though seminal/important works in the field may be older. You must provide *evidence* of your research/own reading throughout your work, using a suitable referencing system, including in-text citations in the main body of your work and a reference list at the end of your work.

Guidance specific to this assessment: *You should be able to justify your design decisions with relevant references to the literature.*

2. Knowledge and Understanding Skills

At level 6, you should be able to demonstrate coherent and detailed knowledge and a systematic understanding of the subject area, at least some of which is informed by the latest research and/or advanced scholarship within the discipline. You should be aware of the uncertainty, ambiguity and limits of knowledge. Your work must demonstrate the growing extent of your knowledge and systematic understanding of concepts and underlying principles associated with the subject area. *Knowledge* relates to the facts, information and skills you have acquired through your learning. You demonstrate your *understanding* by interpreting the meaning of the facts and information (knowledge). This means that you need to select and include in your work the concepts, techniques, models, theories, etc. appropriate to the task(s) set. You should be able to explain the theories, concepts, etc. meaningfully to show your understanding. Your mark/grade will also depend upon the *extent* to which you demonstrate your knowledge and understanding; ideally each should be complete and detailed, with comprehensive coverage.

Guidance specific to this assessment: *Think about the data sources described in the case study and how these map to the elements of data warehouse structure and the ETL process. Try to identify the types of data that will be stored in each data source so that you can use it in targeted examples in your answer.*

3. Cognitive and Intellectual Skills

You should be able to: critically evaluate evidence, arguments, assumptions, abstract concepts and data some of which are at the forefront of a discipline (and that may be incomplete) to devise and sustain arguments, to make judgements and/or solve problems; describe and comment upon particular aspects of current research, or equivalent advanced scholarship, in the discipline. Your work must contain evidence of logical, analytical thinking, evaluation and synthesis. For example, to examine and break information down into parts, make inferences, compile, compare and contrast information. This means not just describing what! But also justifying: Why? How? When? Who? Where? At what cost? At all times, you must provide justification for your arguments and judgements. Evidence that you have reflected upon the ideas of others within the subject area is crucial to you providing a reasoned and informed debate within your work. Furthermore, you should provide evidence that you are able to make sound judgements and convincing arguments using data and concepts. Sound, valid conclusions are necessary and must be derived from the content of your work. Where relevant, alternative solutions and recommendations may be proposed.

Guidance specific to this assessment: *Remember to identify your source systems and your user groups, and use these to inform the design of your system.*

4. Practical Skills

At level 6, you should be able to apply the methods and techniques that you have learned to review, consolidate, extend and apply your knowledge and understanding, and to initiate and carry out projects. You will deploy accurately established techniques of analysis and enquiry relevant to the discipline, and apply them in complex and unpredictable contexts, to devise and sustain arguments and/or to solve problems. You should be able to frame appropriate questions to achieve a solution - or identify a range of solutions. You should be able to demonstrate how the subject-related concepts and ideas relate to real world situations and/or a particular context. How do they work in practice? You will deploy models, methods, techniques, and/or theories, in that context or circumstances, to assess current situations, perhaps to formulate plans or solutions to solve problems, or to create artefacts, some of which may be innovative and creative. This is likely to involve, for instance, the use of real world artefacts, examples and cases, the application of a model within an organisation and/or benchmarking one theory or organisation against others based on stated criteria. You should show awareness of the limitations of concepts and theories when applied in particular contexts.

Guidance specific to this assessment: *As you're building a data warehouse remember that you should be using dimensional modelling and star schemas rather than a normalised database.*

5. Transferable Skills for Life and Professional Practice

Your work must provide evidence of the qualities and transferable skills necessary for graduate-level employment requiring the exercise of initiative and personal responsibility and decision-making in complex and unpredictable circumstances. This includes demonstrating: the learning ability for professional development to advance existing skills and acquire new competences of a professional nature that will enable you to assume significant responsibility within organisations; that you can initiate and complete tasks and procedures, whether individually and/or collaboratively; that you can use appropriate media to effectively communicate information, arguments and analysis in a variety of forms to specialist and non-specialist audiences; fluency of expression; clarity and effectiveness in presentation and organisation. Work should be coherent and well-structured in presentation and organisation.

Guidance specific to this assessment: *The report should be aimed at readers who understand database basics but do not have specific knowledge of data warehousing. Phrase your explanations accordingly.*

STUDENT FEEDBACK FORM

This section details the *extent* to which the assessment criteria are demonstrated by you, which in turn determines your mark. The marks available for each category of skill are shown. Lecturers will use the space provided to comment on the achievement of the task(s), including those areas in which you have performed well and areas that would benefit from development/improvement.

Generic Assessment Criteria	Marks available	Marks awarded
1. Engagement with Literature Skills		
Tasks 1.1 (10), 1.4 (10)	20	
2. Knowledge and Understanding Skills		
Tasks 1.2 (10), 1.3 (10),	20	
3. Cognitive and Intellectual Skills		
Tasks 2.5 (5) 2.1 (5)	10	
4. Practical Application Skills		
Tasks 2.2 (20), 2.3 (10), 2.4 (10)	40	
5. Transferable Skills for Life and Professional Practice		
Tasks 1.2 (5), 1.3 (5)	10	

Assessment Mark (Assessment marks are subject to ratification at the Exam Board. These comments and marks are to give feedback on module work and are for guidance only until they are confirmed.)	Late Submission Penalties (tick if appropriate)		%
	Up to 1 week late (40% Max)		
	Over 1 week late (0%)		

GENERIC ASSESSMENT CRITERIA

Level 6

In accordance with the Framework for Higher Education Qualifications, at the end of Level 6 students should have coherent and detailed knowledge and a systematic understanding of their subject area, at least some of which is informed by the latest research and/or advanced scholarship within the discipline. They will be able to accurately deploy established techniques of analysis and enquiry within a discipline, using their conceptual understanding to devise and sustain arguments and/or to solve problems. They should be aware of the uncertainty, ambiguity and limits of knowledge. They should be able to critically evaluate evidence, arguments, assumptions, abstract concepts and data (that may be incomplete), to make judgements, and to frame appropriate questions to achieve a solution - or identify a range of solutions. They will apply the methods and techniques that they have learned to review, consolidate, extend and apply their knowledge and understanding, and to initiate and carry out projects. They will have the ability to manage their own learning, and to make use of scholarly reviews and primary sources (for example, refereed research articles and/or original materials appropriate to the discipline). They will demonstrate the qualities and transferable skills necessary for employment requiring: the exercise of initiative and personal responsibility; decision-making in complex and unpredictable contexts; the learning ability needed to undertake appropriate further training of a professional or equivalent nature.

Level 6	FAIL	MARGINAL FAIL	SATISFACTORY (3 rd / Pass)	GOOD (2.2 / Pass)	VERY GOOD (2.1 / Merit)	EXCELLENT (1 st / Distinction)	EXCEPTIONAL (1 st / Distinction)
Category	0-29%	30-39%	40-49%	50-59%	60-69%	70-84%	85-100%
Engagement with literature (including reading, referencing, academic conventions and academic honesty)	Little or no evidence of reading and/or reliance on inappropriate sources. Views and findings mostly unsupported and non-authoritative. Referencing conventions used incoherently or largely absent.	Poor engagement with essential reading. No evidence of wider reading. Reliance on inappropriate sources, and/or indiscriminate use of sources. Heavily reliant on information gained through class contact. Inconsistent and weak use of referencing.	Engagement with a limited range of mostly relevant and credible sources. Some omissions and minor errors. Referencing conventions evident though not always applied accurately or consistently.	Engagement with an appropriate range of research-informed literature, including sources retrieved independently. Some over-reliance on texts. Referencing may show minor inaccuracies or inconsistencies.	Engagement with a wide range of research-informed literature, including sources retrieved independently. Selection of relevant and credible sources. Very good use of referencing, with no/very few inaccuracies or inconsistencies.	Engagement with an extensive range of relevant and credible literature, informed by the latest research. Consistently accurate application of referencing.	Exceptional engagement with an extensive range of relevant and credible literature, informed by the latest research. High-level referencing skills consistently and professionally applied.
Knowledge and understanding (Coherent and detailed)	Major gaps in knowledge and systematic understanding of the subject	Gaps in knowledge, with only superficial systematic understanding.	Limited knowledge and systematic understanding of the relevant	Knowledge is reasonably detailed, accurate with a good systematic	Knowledge is reasonably extensive coherent and detailed.	Excellent coherent and detailed knowledge and systematic	Exceptionally coherent and detailed knowledge and systematic

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Category	0-29%	30-39%	40-49%	50-59%	60-69%	70-84%	85-100%
knowledge and systematic understanding of the subject area, at least some of which is informed by the latest research and/or advanced scholarship within the discipline.)	matter. Substantial inaccuracies. No awareness of knowledge of the latest research and/or advanced scholarship within the discipline.	Some significant inaccuracies and/or irrelevant material. No awareness of knowledge of the latest research and/or advanced scholarship within the discipline.	concepts and principles within the subject area which to some limited extent, is informed by current research and scholarship.	understanding of the field of study and to some extent, current research and scholarship.	Exhibits very good understanding of the breadth and depth of established views, and the work is, at least in part, well-informed by current research and scholarship.	understanding of the principles and theories of current research and scholarship. Clear awareness of challenges to established views and the limitations of the knowledge base.	understanding of the principles and theories of the subject, well-informed by current research and scholarship. A critical, sophisticated and nuanced awareness of the ambiguities and limitations of knowledge.
Cognitive and intellectual skills (Conceptual and critical thinking, analysis, synthesis and evaluation of research, assumptions, abstract concepts and data (that may be incomplete); logic, argument and judgement.)	Wholly or almost wholly descriptive work. Little or no analysis, synthesis or evaluation. Failure to develop arguments, leading to illogical or invalid judgements. Unsubstantiated generalisations, made without use of any credible evidence.	Largely descriptive work, with superficial use of critical evaluation. Weak development of arguments and judgements. Information accepted uncritically, uses generalised statements made with scant evidence and unsubstantiated opinions. Ideas sometimes illogical and contradictory.	Limited attempt at critical thinking, analysis, synthesis and evaluation, tending towards description. Some evidence to support emerging arguments and judgements but these may be underdeveloped or with a little inconsistency / mis-interpretation. Asserts rather than argues a case.	Some critical thinking, analysis, synthesis and evaluation. Can analyse new and/or abstract concepts and data without guidance. An emerging awareness of different stances and ability to use evidence (that may be incomplete) to support the argument. Mostly valid arguments and logical judgements. Some tendency to assert/state opinion rather than argue on	Sound critical thinking, analysis, synthesis and evaluation demonstrating critical thinking. Ability to devise and sustain persuasive arguments, and to review the reliability, validity and significance of evidence (that may be incomplete) to make mostly appropriate and valid judgements.	Excellent critical thinking, analysis, synthesis and evaluation. Ability to investigate contradictory or incomplete information and make strong, persuasive, arguments and sophisticated judgements. Some evidence of independent thought and ability to 'see beyond the question', suggesting a grasp of the broader field and wider concepts.	Exceptional critical thinking, analysis, synthesis and evaluation based on judiciously selected evidence. Ability to investigate contradictory or incomplete information and make strong, persuasive, arguments and sophisticated, nuanced, judgements. Evidence of independent thought and ability to 'see beyond the question', suggesting an outstanding

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Category	0-29%	30-39%	40-49%	50-59%	60-69%	70-84%	85-100%
				the basis of reason and evidence.			grasp of the broader field and wider concepts.
Practical skills (Apply/deploy accurately established tools and techniques; initiate and carry out projects; formulate solutions to solve problems in complex and unpredictable contexts.)	Limited or no use of methods, materials, tools and/or techniques. Little or no appreciation of the context of the application. Limited understanding of the application of theory to practice or making appropriate links between the two. Very weak problem-solving skills in complex and unpredictable contexts.	Rudimentary application of methods, materials, tools and/or techniques but without consideration and competence. Flawed appreciation of the context of the application. Weak understanding of the application of theory to practice, with only occasional evidence of making appropriate links between the two. Weak problem-solving skills in complex and unpredictable contexts.	An adequate awareness and mostly appropriate application of well-established methods, materials, tools and/or techniques. Basic appreciation of the context of the application. Theoretical knowledge and understanding applied in practice, but not always making logical links between the two. Can identify problems and propose basic solutions in complex and unpredictable contexts without fully appreciating the complexity.	A good and appropriate application of standard methods, materials, tools and/or techniques. Clear appreciation of the context of the application. Mainly consistent, accurate and logical application of theory to practice, making appropriate links between the two. Can identify problems and propose mostly appropriate solutions in complex and unpredictable contexts.	A very good application of a range of methods, materials, tools and/or techniques. Very good consideration of the context of the application, with perceptive insights. Can identify problems and propose appropriate solutions in complex and unpredictable contexts. Evidence of some innovation and creativity.	An advanced application of a range of methods, materials, tools and/or techniques. The context of the application is well considered, and insightful. Application and deployment extend beyond established conventions. Can identify complex problems and propose excellent solutions. Innovation and creativity evident.	Exceptional levels of application and deployment skills in unpredictable, practical contexts, drawing skilfully on the latest research within the discipline. Can identify complex problems and propose sophisticated solutions. Assimilation and development of cutting edge processes and techniques.
Transferable skills for life and professional practice (Exercise of initiative and	Communication medium is inappropriate or misapplied. Work is poorly structured, disorganised	Communication medium is poorly designed and/or not suitable for the audience. Work is poorly presented in a	Can communicate in a suitable medium but with some room for improvement.	Can communicate effectively in a suitable format, but may have minor errors.	Can communicate well, confidently and consistently in a suitable format.	Can communicate professionally confidently and consistently in a suitable format.	Can communicate with an exceptionally high level of professionalism.

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Category	0-29%	30-39%	40-49%	50-59%	60-69%	70-84%	85-100%
personal responsibility; professional development; initiate and complete tasks and procedures: individually and/or collaboratively; use appropriate media to communicate effectively; fluency of expression; clarity and effectiveness in presentation and organisation.)	and/or confusingly expressed. Very weak use of language and/or very inappropriate style. Little or no evidence of autonomy (or collaboration, where relevant) in the completion of tasks. Little or no evidence of the skills required in graduate employment.	disjointed manner. It is loosely, and at times incoherently, structured, with information and ideas often poorly expressed. Weak use of language and/or inappropriate style. Weak independent initiative (or collaboration, if relevant). Limited evidence of the skills required in graduate employment.	Mostly ordered presentation and structure in which relevant ideas / concepts are reasonably expressed. Work may lack coherence in places. Can work as part of a team, but with limited involvement in group activities. Demonstrates the basic skills required in graduate employment, with some areas of minor weakness.	Mostly coherent, organised work, in a suitable structure and is for the most part clearly expressed. Can work effectively independently and/or as part of a team, with clear contribution to group activities. Demonstrates the skills required in graduate employment, with some areas of strength and some of minor weakness.	Work is coherent, fluent, well-structured and organised. Can work very well autonomously and/or as part of a team, with very good contribution to group activities. Demonstrates very good graduate employment skills, with just occasional minor weakness.	Work is coherent, very fluent and is presented professionally. Can work autonomously with initiative. Where relevant can work professionally within a team, showing leadership skills as appropriate, managing conflict and meeting obligations. Demonstrates excellent graduate employment skills and an appetite for further development.	Work is exceptionally coherent, very fluent and is presented professionally. Can work exceptionally well and professionally within a team, showing advanced leadership skills. Demonstrates exceptional graduate employment skills and an appetite for further development.