

UNDERGRADUATE ASSIGNMENT SPECIFICATION

Student name:		Student ID number:	
Programme:	BA Business Studies		
Module:	Quantitative Techniques in Business		
Module Level : (3,4, 5 or 6)	4		
Module code:	SBLC 4002	Contribution to Overall Module Assessment (%):	100% Written Assignment Report
Lecturer:	Dr Ashok Srivastava	Internal Verifier:	
Assignment Title:	Descriptive Statistics, Correlation and Regression Analysis	Word count (or equivalent):	2500 Words Written Report on the assignment tasks
Submission deadline:	2nd April, 21 (Friday) Submission of Written Assignment Report	Return date of provisional marks & written feedback:	tbc
Submission method:	<p>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.)</p> <p>Alternative submission method (if applicable):</p> <p>Late submission of the assessment will result in a late penalty mark. Penalties for late submission: Up to one week late, maximum mark of 40%. Over one week late, 0%. Only the Extenuating Circumstances Panel may approve a change to submission dates.</p>		
Academic honesty / referencing:	<p>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.</p>		
Disclosure:	<p>Please include the following statement on the title page of the submitted assignment, followed by your name: I declare that this assignment is all my own work and that I have acknowledged all materials used from the published or unpublished works of other people. All references have been duly cited.</p>		

Learning Outcomes tested (From module syllabus)	Assessment Criteria to achieve each outcome a student must demonstrate the ability to:
1. To develop the student's ability to understand the use of mathematics and statistics in solving business problems	Have a basic understanding of some of the models in statistical data analysis and their use in business decision-making
2. To provide an introduction to statistics and commonly used quantitative methods, which will prove useful in helping students to understand and appreciate other modules in the Business Studies programme	Appreciate different types of decision-making environments Comprehend the purpose and use of mathematics and statistics in business based problem
3.To encourage the student to use appropriate computer software to present and analyse statistical data in the context of quality production and business-related problems.	Use computers to summarise, analyse and present data meaningfully

ASSIGNMENT TASK DESCRIPTION

BACKGROUND / INTRODUCTION

A personnel and recruitment company wishes to build a model of likely income level. The company believes that education, experience and number of previous jobs are the important factors which impact the income level of an individual. Data collected on 13 clients gives the following results:

Income level £000's	Years of post-16 education	Years of work experience	Number of previous jobs
15	2	5	0
20	5	3	1
17	5	7	2
9	2	2	0
18	5	8	2
24	7	4	3
37	10	11	2
24	5	7	1
19	6	4	0
21	2	8	4
39	7	12	2
24	8	8	1
22	5	6	2

TASK: Writing an Academic Report of 2500 words (+/- 10%) on Tasks 1, 2 & 3

Task 1: Graphs (Descriptive statistics)

Use relevant graphs to represent each of the following and examine them:

- (i) Income level and Years of post-16 education
- (ii) Years of work experience and income level
- (iii) Number of previous jobs and income level

Task 2: Correlation Analysis

Perform a correlation analysis for income level with years of post-16 education, years of experience and number of previous jobs and examine the strength of relationship between these parameters.

Task 3: Regression Analysis

Perform regression analysis by using income level as the dependent variable and years of post-16 education, years of experience, number of previous jobs as independent variables. The analysis should be conducted at the 95% of confidence level

Report format – Please ensure that you acknowledge our sources of data using Harvard referencing method. The structure of your report may be as follows:

1. Introduction [300 words]

- The objectives/ rationale for the assignment should be captured
- The key highlights should be captured etc.

2. Graphical Analysis [500 words]

- Use relevant software tools to draw suitable graphs as specified in the Task 1
- Discuss the nature of the relationship from the resulting graphs
- Your discussion should be supported with some relevant literature

3. Correlation Analysis [600 words]

- Use relevant software to produce a correlation matrix as specified in Task 2
- Examine the strength of relationship between the ratios
- Use relevant literature to support your discussion

4. Regression Analysis [700 words]

- Use relevant software to perform the regression analysis as specified in Task 3
- Examine the resulting model using the relevant mechanisms such as goodness of fit; significance; the model and its interpretation etc.
- Use relevant literature to support your discussion

5. Conclusion and Recommendations [400 words]

- Provide a suitable conclusion and recommendation for the entire discussion
- Ensure your conclusion represents a reflective summary for the discussion

6. Referencing

- Use Harvard referencing style should be strictly followed.
- Ensure your reference list include all citations in the text and others which may not be in the text (bibliography)
- Ensure that your references are coming from quality sources such as articles; Textbooks and other peer-reviewed journals

Note: Reference List; Tables and Figures are not part of the word count

FORMATTING AND LAYOUT

Please note the following when completing your written assignment:

1. **Writing:** Written in English in an appropriate business/academic style
2. **Focus:** Focus only on the tasks set in the assignment.
3. **Length:** 2500 words
4. **Formatting:** Typed on A4 paper in Times New Roman or Arial font 12 with at least 2.5 centimeter space at each edge, double spaced and pages numbered.
5. **Document format:**
6. Ensure a clear title, course, and name or ID number is on a cover sheet and a bibliography using Harvard referencing throughout is also provided.
7. **Research:** Research should use reliable and relevant sources of information e.g. academic books and journals that have been peer reviewed. The research should be extensive.

The use of a range of information sources is expected – academic books, peer reviewed journal articles, professional articles, press releases and newspaper articles, reliable statistics, company annual reports and other company information. All referencing should be in Harvard style.

MARKING CRITERIA FOR REPORT (60% WEIGHT)

This section details the assessment criteria. The *extent* to which these are demonstrated by you determines your mark. The marks available for each criterion 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.

Common Assessment Criteria Applied	Marks Available	Marks Awarded
1. Introduction	5	
An excellent introduction should provide clarity on the relevance of the report. It should also address the key highlights to be discussed in the report. One or two references should be included to add quality to presentation.		
2. Graphical Analysis	20	
An excellent presentation should clearly label the axes; the use of an appropriate scale; and proper titles given to graphs. The Discussion of the relationships with the aid of the trend will be the major indicator here.		
3. Correlation Analysis	20	
Candidate should demonstrate a clear understanding of the concept of correlation. Weak; Strong; Moderate and significant correlations should be given attention.		
4. Regression Analysis	30	
The interpretation of the regression output is the major focus for this component. Candidate should demonstrate their ability to link theory with the practice.		
5. Conclusion & Recommendation	15	
An excellent conclusion should provide a reflective summary of the entire presentation. Also the recommendation provided should be based on the findings of the analysis.		
6. Overall Presentation	10	
Referencing; grammar; visuals and formatting. The word count will also be taken into consideration		

Assignment 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)	100%
	Up to one-week late	
	Over one week late	

GUIDANCE FOR STUDENTS IN THE COMPLETION OF TASKS

NOTE: The guidance offered below is linked to the five common assessment criteria above.

1. Research-informed Literature

Your work must be informed and supported by scholarly material that is *relevant* to and *focused* on the task(s) set. 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 in-text citations in the main body of your work and a reference list that is alphabetical at the end of your work. Please use the Harvard referencing system.

Specific to this assignment: Good answers show evidence of research beyond the case material provided.

2. Knowledge and Understanding of Subject

Your work must demonstrate the growing extent of your knowledge and 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.

Specific to this assignment: Marks are given for identification and application of relevant theoretical models.

3. Analysis

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 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. There should be no new information presented within your conclusion. Where relevant, alternative solutions and recommendations may be proposed.

Specific to this assignment: Analysis comes from appropriate data and information to provide insights.

4. Practical Application and Deployment

You should be able to demonstrate how the subject-related concepts and ideas relate to real world situations or a particular context. How do they work in practice? You will deploy models, methods, techniques, and/or theories, in that context, to assess current situations, perhaps to formulate plans or solutions to solve problems, some of which may be innovative and creative. This is likely to involve, for instance, the use of real world examples and cases, the application of a model within an organisation and/or benchmarking one organisation against others based on stated criteria. You should show awareness of the limitations of concepts and theories when applied in particular contexts.

Specific to this assignment: ALL recommendations to be sourced from and relevant to the analysis provided.

5. Skills for Professional PracticeYour work must provide evidence of the attributes expected in professional practice. This includes demonstrating your individual initiative and/or collaborative working. You must communicate effectively in a suitable format, which may be written and/or oral, for example, essay, management report, presentation. Work should be coherent and well- structured in presentation and organisation.

Specific to this assignment: Report format normally includes the following sections: Executive Summary, Introduction, Main Findings, Conclusions, Recommendations, References and Appendices. Your report should be written in a suitable academic writing style i.e. using the third person.

UNDERGRADUATE - COMMON ASSESSMENT AND MARKING CRITERIA

Assessment Criteria	OUTRIGHT FAIL	UNSATISFACTORY	SATISFACTORY	GOOD	VERY GOOD	EXCELLENT	EXCEPTIONAL
	0-29%	30-39%*	40-49%	50-59%	60-69%	70-79%	80-100%
1. Research-informed Literature Extent of research and/or own reading, selection of credible sources, application of appropriate referencing conventions	Little or no evidence of reading. Views and findings unsupported and non-authoritative. Referencing conventions largely ignored.	Poor evidence of reading and/or of reliance on inappropriate sources, and/or indiscriminate use of sources. Referencing conventions used inconsistently.	References to a limited range of mostly relevant sources. Some omissions and minor errors. Referencing conventions evident though not always applied consistently.	Inclusion of a range of research-informed literature, including sources retrieved independently. Referencing conventions mostly consistently applied.	Inclusion of a wide range of research-informed literature, including sources retrieved independently. Selection of relevant and credible sources. Very good use of referencing conventions, consistently applied.	A comprehensive range of research informed literature embedded in the work. Excellent selection of relevant and credible sources. High-level referencing skills, consistently applied.	Outstanding knowledge of research-informed literature embedded in the work. Outstanding selection of relevant and credible sources. High-level referencing skills consistently and professionally applied.
2. Knowledge and Understanding of Subject Extent of knowledge and understanding of concepts and underlying principles associated with the discipline.	Major gaps in knowledge and understanding of material at this level. Substantial inaccuracies.	Gaps in knowledge, with only superficial understanding. Some significant inaccuracies.	Evidence of basic knowledge and understanding of the relevant concepts and underlying principles.	Knowledge is accurate with a good understanding of the field of study.	Knowledge is extensive. Exhibits understanding of the breadth and depth of established views.	Excellent knowledge and understanding of the main concepts and key theories. Clear awareness of challenges to established views and the limitations of the knowledge base.	Highly detailed knowledge and understanding of the main theories/concepts, and a critical awareness of the ambiguities and limitations of knowledge.
3. Analysis Analysis, evaluation and synthesis; logic, argument and judgement; analytical reflection; organisation of ideas and evidence	Unsubstantiated generalisations, made without use of any credible evidence. Lack of logic, leading to unsupported/missing conclusions. Lack of any attempt to analyse, synthesise or evaluate.	Some evidence of analytical intellectual skills, but for the most part descriptive. Ideas/findings sometimes illogical and contradictory. Generalized statements made with scant evidence. Conclusions lack relevance.	Evidence of some logical, analytical thinking and some attempts to synthesise, albeit with some weaknesses. Some evidence to support findings/views, but evidence not consistently interpreted. Some relevant conclusions and recommendations, where relevant	Evidence of some logical, analytical thinking and synthesis. Can analyse new and/or abstract data and situations without guidance. An emerging awareness of different stances and ability to use evidence to support the argument. Valid conclusions and recommendations, where relevant	Sound, logical, analytical thinking; synthesis and evaluation. Ability to devise and sustain persuasive arguments, and to review the reliability, validity & significance of evidence. Ability to communicate ideas and evidence accurately and convincingly. Sound, convincing conclusions / recommendations.	Thoroughly logical work, supported by evaluated evidence. High quality analysis, developed independently or through effective collaboration. Ability to investigate contradictory information and identify reasons for contradictions. Strong, persuasive, conclusions, justifiable recommendations.	Exceptional work; judiciously selected and evaluated evidence. Very high quality analysis, developed independently or through effective collaboration. Ability to investigate contradictory information and identify reasons for contradictions. Highly persuasive conclusions
4. Practical Application and Deployment Effective deployment of appropriate methods, materials, tools and techniques; extent of skill demonstrated in the application of concepts to a variety of processes and/or contexts; formulation of innovative and creative solutions to solve problems.	Limited or no use of methods, materials, tools and/or techniques. Little or no appreciation of the context of the application.	Rudimentary application of methods, materials, tools and/or techniques but without consideration and competence. Flawed appreciation of the context of the application.	An adequate awareness and mostly appropriate application of well-established methods, materials, tools and/or techniques. Basic appreciation of the context of the application.	A good and appropriate application of standard methods, materials, tools and/or techniques. Good appreciation of the context of the application, with some use of examples, where relevant.	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 use of examples, where relevant. 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, with extensive use of relevant examples. Application and deployment extend beyond established conventions. Innovation and creativity evident throughout.	Outstanding levels of application and deployment skills. Assimilation and development of cutting edge processes and techniques.
5. Skills for Professional Practice Demonstrates attributes expected in professional practice including: individual initiative and collaborative working; deployment of appropriate media to communicate (including written and oral); clarity and effectiveness in presentation and organisation.	Communication media is inappropriate or misapplied. Little or no evidence of autonomy in the completion of tasks. Work is poorly structured and/or largely incoherent.	Media is poorly designed and/or not suitable for the audience. Poor independent or collaborative initiative. Work lacks structure, organisation, and/or coherence	Can communicate in a suitable format but with some room for improvement. Can work as part of a team, but with limited involvement in group activities. Work lacks coherence in places and could be better structured.	Can communicate effectively in a suitable format, but may have minor errors. Can work effectively as part of a team, with clear contribution to group activities. Mostly coherent work and is in a suitable structure.	Can communicate well, confidently and consistently in a suitable format. Can work very well as part of a team, with very good contribution to group activities. Work is coherent and fluent and is well structured and organised.	Can communicate professionally and, confidently in a suitable format. Can work professionally within a team, showing leadership skills as appropriate, managing conflict and meeting obligations. Work is coherent, very fluent and is presented professionally.	Can communicate with an exceptionally high level of professionalism. Can work exceptionally well and professionally within a team, showing advanced leadership skills. Work is exceptionally coherent, very fluent and is presented professionally.

Student Self Evaluation Form

Student name:		Student number:	
Programme:		Year of programme	
Assignment Title:			

This section repeats in brief the common assessment criteria detailed on previous pages. The *extent* to which these are demonstrated by you determines your mark. Using these criteria, tick the box that best indicates the level of achievement you feel you have achieved with regard to each of them. Please note that this self-assessment is used as a developmental tool only and has no impact on the way in which your work will be marked.

Common Assessment Criteria Applied	Level of Achievement						
	REFER		3 rd	2:2	2:1	1 st	1 st
	OUTRIGHT FAIL	UNSATISFACTORY	SATISFACTORY	GOOD	VERY GOOD	EXCELLENT	EXCEPTIONAL
1. Research-informed Literature	0-29%	30-39%	40-49%	50-59%	60-69%	70-79%	80-100%
2. Knowledge and Understanding of Subject	0-29%	30-39%	40-49%	50-59%	60-69%	70-79%	80-100%
3. Analysis	0-29%	30-39%	40-49%	50-59%	60-69%	70-79%	80-100%
4. Practical Application and Deployment	0-29%	30-39%	40-49%	50-59%	60-69%	70-79%	80-100%
5. Skills for Professional Practice	0-29%	30-39%	40-49%	50-59%	60-69%	70-79%	80-100%

PLEASE COMMENT ON AREAS IN WHICH YOU FEEL THAT YOU HAVE PERFORMED WELL	PLEASE COMMENT ON AREAS YOU FEEL THAT YOU NEED TO DEVELOP

Student's Name		Date	
Student's Signature			