**ASSIGNMENT 1 BRIEF**

|  |  |  |  |
| --- | --- | --- | --- |
| **Qualification** | **BTEC Level 5 HND Diploma in Computing** | | |
| **Unit number** | UNIT 13: Computing Research Project | | |
| **Assignment title** | Proposing and conducting a research project | | |
| **Academic Year** | 2022 - 2023 | | |
| **Unit Tutor** | Do Tien Thanh | | |
| **Issue date** | 03 August 2022 | **Submission date** | 03 August 2022 |
| **IV name and date** |  | | |

|  |
| --- |
| **Submission Format:** |
| *Format:* The submission is in the form of 1 document  You must use font *Calibri size 12, set number of the pages and use multiple line spacing at 1.3. Margins must be: left: 1.25 cm; right: 1 cm; top: 1 cm and bottom: 1 cm.* The reference follows Harvard referencing system.  *Submission* Students are compulsory to submit the assignment in due date and in a way requested by the Tutors. The form of submission will be a soft copy posted on <http://cms.greenwich.edu.vn/>  *Note:* The Assignment *must* be your own work, and not copied by or from another student or from  books etc. If you use ideas, quotes or data (such as diagrams) from books, journals or other sources, you must reference your sources, using the Harvard style. Make sure that you know how to reference properly, and that understand the guidelines on plagiarism. *If you do not, you definitely get failed* |
| **Unit Learning Outcomes:** |
| **LO1** Examine appropriate research methodologies and approaches as part of the research process  **LO2** Conduct and analyse research relevant for a computing research project  **LO3** Communicate the outcomes of a research project to identified stakeholders |
| **Assignment Brief and Guidance:** |
| **Introduction to theme**  **The environmental impact of digital transformation**  The amount of data created and stored globally is expected to reach 175 Zettabytes by 2025, a six-fold increase from 2018. This will demand additional hardware and power consumption, which; in turn, will increase the environmental impact of the digital sector and there is already increasing attention on the environmental footprint of ICT equipment and services as they become more widespread in all aspects of human life.  It is the responsibility of everyone to take action in addressing the challenges of climate change, as professionals we must also seek ways that the digital sector can play its part. While digital technologies are one of the sectors that has achieved greater efficiency; achieving about 100 times more computation power from the same amount of energy per decade, it remains unsustainable. The sector must continue to seek ways in which it can continue to support and drive innovation, while addressing the global climate emergency for a greener and fairer future. Choosing a research objective/question Students are to choose their own research topic for this unit. Strong research projects are those with clear, well focused and defined objectives. A central skill in selecting a research objective is the ability to select a suitable and focused research objective. One of the best ways to do this is to put it in the form of a question. Students should be encouraged by tutors to discuss a variety of topics related to the theme to generate ideas for a good research objective.  The range of topics discussed could cover the following:  ● The use of modern methods to reduce carbon emissions in IT network systems.  ● The impact of cloud data centres on the environment.  ● The environmental implications of e-waste and ways to reduce it.  The research objective should allow students to broaden their understanding and widen their erspective of being able to explore, argue, prove, and/or disprove a particular objective. The research objective should be feasible, novel, ethical, relevant and ultimately of interest to the student  You have to set you own research question in the research proposal base on the previous range of topic, and the research question must be specific enough. |
|  |

|  |  |  |
| --- | --- | --- |
| **Learning Outcomes and Assessment Criteria** | | |
| **Pass** | **Merit** | **Distinction** |
| **LO1** Examine appropriate research methodologies and approaches as part of the research process | | **LO1 & 2**  **D1** Critically evaluate research methodologies and processes in application to a computing research project to justify chosen research methods and analysis. |
| **P1** Produce a research proposal that clearly defines a research question or hypothesis supported by a literature review.  **P2** Examine appropriate research methods and approaches to primary and secondary research. | **M1** Evaluate different research approaches and methodology and make justifications for the choice of methods selected based on philosophical/theoretical frameworks. |
| **LO2** Conduct and analyse research relevant for a computing research project | |
| **P3** Conduct primary and secondary research using appropriate methods for a computing research project that consider costs, access and ethical issues.  **P4** Apply appropriate analytical tools, analyse research findings and data. | **M2** Discuss merits, limitations and pitfalls of approaches to data collection and analysis. |
| **LO3** Communicate the outcomes of a research project to identified stakeholders | | **D2** Communicate critical analysis of the outcomes and make valid, justified recommendations. |
| **P5** Communicate research outcomes in an appropriate manner for the intended audience. | **M3** Coherently and logically communicate outcomes to the intended audience demonstrating how outcomes meet set research objectives. |