جامعة الحسين التقنية
Al Hussein Technical University

# ASSIGNMENT BRIEF

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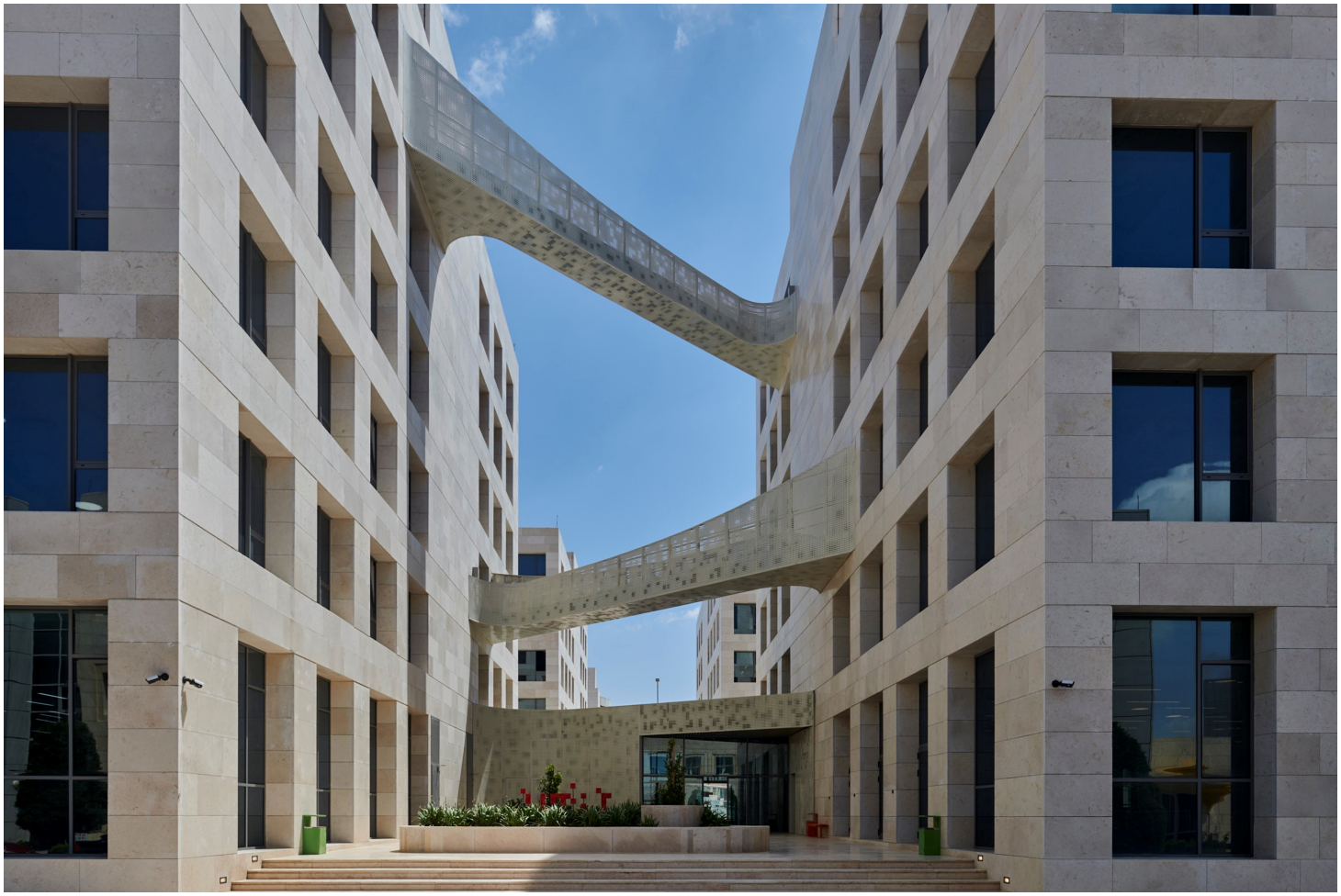
| **HTU Course No:**<br>40201290 | **HTU Course Name:**<br>Planning a Computing Project |
| **BTEC Unit Code:**<br>H/618/7407 | **BTEC UNIT Name:**<br>Planning a Computing Project |



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| **Student Name/ID Number/Section** | |
| **HTU Course Number and Title** | 40201290 Planning a Computing Project |
| **BTEC Unit Code and Title** | H/618/7407 Planning a Computing Project |
| **Academic Year** | 2024-2025 3 |
| **Assignment Author** | Nayef Abu-Aqeel |
| **Course Tutor** | Nayef Abu-Aqeel |
| **Assignment Title** | AI |
| **Assignment Ref No** | 2 |
| **Issue Date** | 17/08/2025 |
| **Formative Assessment dates** | From 18/08/2025 to 28/08/2025 |
| **Submission Date** | 09/09/2025 |
| **IV Name & Date** | 16/08/2025 |

**Submission Format**

**Report:**

- Technical report
- Three Logbooks (in one Word Document)
- Declaration Form

**Report Guidelines:**

Your submissions should be in the form of a soft copy via the eLearning school system. The report should be:

- Written in professional style format.
- The report must be submitted in MS Word format (not pdf).
- Include a cover page: Student name, Class, Assignment Title, and Date.
- Your work must be supported with references using the Harvard reference system.
- If the percentage of quoted sources in your report is more than 15%, you shall fail the course.
- Any plagiarism, even if it is 1%, shall result in failing the course.
- If you use AI tools, you must quote the text generated by the AI tool and cite the used AI tool.
- If the percentage of quoted AI tools/sources in your report is more than 15%, you shall fail the course.

**Oral Exam:**

An oral discussion will be scheduled with your instructors to assess your understanding of the assignment.

**Resubmission:**

If you lose P1 (Research part), you will NOT be eligible for resubmission.

**Note:** If you do not see the Turnitin report when you submit your report, contact your instructor immediately

**Unit Learning Outcomes**

**LO3** Produce project plans based on research of the chosen theme for an identified organization.

**LO4** Present your project recommendations and justifications of decisions made, based on research of the identified theme and sector.

**Assignment Brief and Guidance**

Artificial intelligence is at the forefront of innovation within Computer Science that uses a combination of logic, algorithms and large data sets to produce an AI model. The AI model is created to perform specific tasks or make predictions on supplied sets of input data, for example identifying patterns in weather data, internet search data or analysis of medical data. Artificial intelligence is predicted to generate a potential impact to the global economy of $13 – $15 Trillion by 2030, with sales of AI related hardware, software and services predicted to see a global revenue of $900 billion. It is predicted that AI will boost the GDP of China by a little over 26% by 2039, and of North America by 14.5%.

AI requires the input of structured and labelled data, where the outputs are already known. The input data sets to the AI model are intrinsically linked to study field to which the AI engine is to be applied. The AI model can then be used to identify and recognize patterns and relationships within the input data. This identification step is referred to as 'training' the AI model. Once this training is completed, the model can then be used to make predictions and identify patterns within brand new data sets. This new data set can then be added to the existing data set, so that the AI model keeps 'growing'. As the model data set keeps expanding, and the AI algorithms are modified and refined, this gives the impression that the AI is 'learning' and demonstrating 'intelligence'. AI has been used extensively to analyse and process large and complex datasets produced by big data systems, often in real time and using Computer Vision to extract data from image sources.

Developing Artificial Intelligence required a range of knowledge and skills across a broad range of computer science disciplines. AI developers need to be familiar with the algorithms and techniques in fields such as machine learning, natural language processing, computer vision and data science. Knowing the required computing skills will help organisations recruit the correct resources to help develop and extend AI systems.

Artificial Intelligence has a range of benefits across many industry sectors. In the finance industry, AI is rapidly becoming a game changer, using advanced algorithms, models and machine learning to carry out predictive analytics on large, rapidly changing financial datasets to provide more accurate financial predictions. In the field of business operations, AI automation is helping to support and enhance labour productivity, leading to greater cost savings and increased efficiency. AI is also revolutionising the way businesses interact with their customers, by providing AI driven expert systems to help customers resolve queries as well as providing personalised recommendations based on customer choices and preferences. In the field of biomedical science, AI models help in the development of new drug treatments for a range of diseases by searching and processing large scale medical and DNA datasets.

While Artificial Intelligence has numerous benefits in the analysis and processing of large data sets to solve problems, there are some clear risks to the application technology. AI systems respond to the data fed into the model, and so if this data is not representative of the problem area under study, there is a likelihood that the output of the AI model will be biased. In addition, there are security and privacy concerns on the source and storage of the large datasets used for AI. The rise of the Deepfake image and the manipulation of the human voice is also a concern because of the spread of misinformation. The wide-ranging effects of these risks mean that they can only be dealt with by a diverse range of stakeholders, including computer scientists, law makers, governments, and industry leaders. There are also incidental risks of AI in business, for example the increasing adoption of AI based systems may increase unemployment across a range of sectors and workforce demographics.

The theme will enable students to explore some of the topics concerned with Artificial Intelligence from the standpoint of a prospective computing professional or data scientist. It will provide the opportunity for students to investigate the applications, benefits and limitations of Artificial Intelligence while exploring the responsibilities and solutions to the problems it is being used to solve.

In an imagined scenario, an organization such as a company, non-profit entity, or governmental unit wants to benefit from the advancement in the AI field. The selected organization has decided to explore different technologies and tools that can be utilized in developing an AI system. Additionally, they want to investigate the impact of such kinds of AI technologies on their operational efficiency. Therefore, in one of the company's stakeholder meetings, some stakeholders were interested in solutions that enable the organization

to implement an AI system to improve its business model. The stakeholders then agreed to conduct small research to investigate the potential of developing an AI system. As a Project Manager, your responsibility is to:

Prepare a Technical Report that provides a detailed insight into the potential of utilizing an AI system. The report should have the following parts: Project Management Plan, Project Recommendations and Justifications, Performance Review, and Logbooks.

**Technical Report – Project Management Plan (PMP)**

Use the provided Template to produce comprehensive project plans that effectively consider aims, objectives, and risks/benefits for an identified organization that you can present to your manager. The PMP includes a summary of the: (1) project scope, (2) Time Management Plan, (3) Cost Management Plan, (4) Resources Management Plan, (5) Risk Management Plan, (6) Change Management Plan, (7) Project Management Methodology.

**Technical Report – Project Recommendations and Justifications**

Present your project recommendations and justifications of decisions made, based on research of the identified theme and sector.

1. Prepare a PowerPoint presentation to present the project to non-technical stakeholders. The emphasis in this presentation should be on strategic information. Avoid technical terminology and provide a lower level of detail (i.e., simplified concepts). Include appropriate project recommendations.
2. In the report, discuss the methods and mediums to be used when communicating with various stakeholders. Include at least two internal and two external stakeholders in your discussion. Stakeholders should include technical and non-technical ones. Examples of methods and mediums include written documents, reports, online meetings, in-person meetings, or presentations. Explain how project research and the intended audience will influence the method and medium.
3. In the report, present the arguments for the planning decisions made when developing the project plans. Arguments should include justifications for key points from cost estimate analysis, deliverables, success metrics, and impact analysis. Justify the project management methodology (e.g., Waterfall, Agile, Rapid Application Development (RAD)) that you selected for your project.
4. In the report, assess the extent to which the project recommendations meet the needs of the identified organization, including fully supported rationales for planning decisions made. Your assessment may include how the recommended budget, timeline, risks, resources, and change management plan meet the needs of the organization.

**Technical Report – Performance Review**

1. Discuss the accuracy and reliability of the different research methods applied by differentiating between the different research methodologies, how the selected research methodology is the best for the selected organization, and the project circumstances. Explain the relation between the selected methodologies, sample size, and sample characteristics. Reflect on the findings of your research and how those findings can impact the quality of your decisions and the accuracy of your conclusions.
2. Evaluate the project planning recommendations made about the needs of the identified organization and the accuracy and reliability of the research carried out including the survey itself. Your evaluation may include how the recommended budget, timeline, risks, resources, and change management plan meet the needs of the organization as well as the accuracy and reliability of the research carried out.

Logbook

**Submit a logbook for every task in one Word document. Use the logbook template.**

| Learning Outcomes and Assessment Criteria | | | |
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| **Learning Outcome** | **Pass** | **Merit** | **Distinction** |
| **LO3** Produce project plans based on research of the chosen theme for an identified organization. | **P5** Devise comprehensive project plans for a chosen scenario, including a work and resource allocation breakdown using appropriate tools. | **M3** Produce comprehensive project plans that effectively consider aims, objectives, and risks/benefits for an identified organization. | **D2** Evaluate the project planning recommendations made in relation to the needs of the identified organization and the accuracy and reliability of the research carried out. |
| **LO4** Present your project recommendations and justifications of decisions made, based on research of the identified theme and sector. | **P6** Communicate appropriate project recommendations for technical and non-technical audiences.<br><br>**P7** Present arguments for the planning decisions made when developing the project plans.<br><br>**P8** Discuss the accuracy and reliability of the different research methods applied. | **M4** Assess the extent to which the project recommendations meet the needs of the identified organization, including fully supported rationales for planning decisions made. | |