Pearson
Higher Nationals in

Computing

PEARSON-SET THEME

UNIT: 13 Computing Research Project

For use with the Higher National Certificate and

Higher National Diploma in Computing

Applies to the delivery of the unit: 1st September 2018 - 31st August 2019

Issue 1

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1.1 Introduction to theme

The Pearson-set theme for use with Level 5 *Unit 13: Computing Research Project* is;

Artificial Intelligence (AI)

Artificial Intelligence covers computer systems which are able to perform tasks normally requiring human intelligence. These tasks might include visual perception, speech recognition, decision-making, and translation between languages and many more.

AI impacts on every aspect of society and has the potential to be fully integrated into daily work and social lives in the very near future.

This unit will enable students to examine the multi-dimensions and applications of AI within computing systems from the standpoint of a prospective computing professional. This will provide the opportunity for students to investigate the uses and potential innovations within computing systems and explore the solutions to the problems presented.

1.2 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:

- How does AI aid the in-depth exploration of an environment or system?
- What role may AI play in generating content for big brand products and services?
- How does AI and machine learning contribute to the innovative use of technology e.g. robotics, automotive transportation?
- What impact will the future influences of AI have in our daily lives?

The research objective should allow students to broaden their understanding and widen their perspective 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. Guidance for tutors is available in the ***Pearson-set Assignment Guidance document for Unit 13: Computing Research Project*** and templates are provided for both the research proposal and ethics form.

For those centres who have multiple start dates throughout the academic year, for example students beginning their studies on the Higher National Diploma between January and July, the same theme for both Level 4 and Level 5 Pearson-set units may apply (depending on delivery schedules and when students commence the Pearson-set units). If students are in a position of completing the same theme for both Level 4 and 5, centres must ensure that the theme for the Level 5 is addressed in a different context from the topic selected and applied at Level 4.

Please note that if reasonable adjustments are necessary to meet a specific individual student need you are able to adjust internal assessments to take this into account. Any adjustments must be considered in relation to the centre's policies on equality & diversity and student support.

Further details on how to make adjustments for students with protected characteristics are given in the document *'Pearson Supplementary Guidance for Reasonable Adjustment and Special Consideration in Vocational Internally Assessed Units'* available on our website (http://qualifications.pearson.com).

1.3 Project Evidence / Outcomes

It is important to recognise that project work is reliant on gathering information/data that can be analysed. The scale of the project means that there must be time for both primary and secondary research. An advised model would be to use secondary research to provide a context for the students to conduct and interpret primary data collection. The project could then yield data that could be compared with the findings of secondary research information.

In assessing the project, the assessor should be able to see a rationale for the project title, an identification of controversial aspects of the title and of the relevant literature/data sources. This will be based primarily on the student's research proposal. Student research should outline the literature/theories that supports the identified research objective/s and include critical evaluation of central arguments paying attention to whether or not the arguments are logically valid. Throughout their research students should be aware of the importance of clear and consistent use of language and the use of a consistent reference system. Engagement in reflective study of the research process should be evident, with students explaining how their ideas have developed, the significance of results and what they have learnt about the methodology of research. Well edited, focused writing and presentation, where the key decisions, developments, lines of argument and salient research are explained succinctly, is preferable to unstructured writing and presentation where little attempt to select or edit material has been made.

It is important to recognise that there are many different formats that a student could use to present their work and it is important that students think carefully about the suitability of the format in relation to the target audience. Both verbal and written forms of communication should be appropriate to the

audience, both in terms of the nature and level of material they use and also in terms of length. Students should be guided to produce research that gives a succinct account of the main arguments or developments from their project. If a verbal presentation is the chosen format, the question and answer session should address issues raised by the presentation, but also give students an opportunity to review their work.

Students are to submit as evidence for the unit in addition to their project findings, the ***research proposal and ethics form***. The research proposal sets out the plan for how the students will achieve the intended research objective and shows whether the objective will be feasible, ethical and achievable in the time scale. It sets out how secondary research supports the research objective, how the research will be conducted, how the research will be evaluated**.** Students will need to gain ethical approval before commencing their research, this will be discussed with the tutor during the research proposal.

1.4 Employer engagement

It is advisable that centres look at the Pearson-set Assignment as an appropriate unit to embed employer engagement, although this is not a mandatory requirement. Developing and establishing links with employers enhances the teaching and learning experience and improves students' employability. Where possible, identifying links with employers as part of the delivery of the Pearson-set Assignment could lead to enhancing and supporting student learning. Real-life projects provide students with the opportunity to develop and acquire appropriate skills, knowledge and expertise required by employers.

1.5 Sharing of good practice

An appointed External Examiner (EE) for the centre will ask to sample the Pearson -set assignment briefs for review as part of the remote sampling request. Although this is not a mandatory requirement for centres we strongly advise that centres seek guidance and support from their EE on the Pearson-set assignment. The EE may also include the Pearson-set units in the centre visit sample of student work. The EE will review and identify exemplars in all aspects of good practice
Good practice will focus on current themes that align to QAA Higher Education Reviews:

- Innovation
- Digital literacy
- Student employability and entrepreneurial skills
- Employer engagement
- Quality of assessment feedback.

The Assignment Guidance for Unit 13: Computing Research Project should be read in conjunction with the theme release. It provides advice and guidance for both tutors and students.

For any further additional support or queries regarding this document, please email btecdelivery@pearson.com.