You are employed as a trainee building services design engineer by a medium-sized building services engineering firm. Having completed the analysis of heating loads (from Assessment 1), you are now asked to undertake the design of the heating system and the various necessary components. You can use the drawings from the previous assignment or an employer based project that you are familiar with that includes all the other necessary information about it, and you have the heating load analysis already completed. Based on this information you should: • design the heating system, specifying the heat emitters to be used • consider alternative strategies to support sustainability • calculate the sizes of pipework necessary for the installation • calculate resistance in the index circuit • analyse and justify your design and component selection.

Discuss suitable alternative heating strategies for a given building.

Explore the design criteria for the selection of heat emitters and heat source, and the criteria for their selection.

Select a suitable heating strategy for a given building and analyse the reasons behind their selection.

Justify the selection of suitable heat emitters and heat source for a given building and analyse their selection.

Critically analyse a range of sustainable options suitable for the heating system in a given building.

Produce a design proposal for a non-domestic heating system.

Justify the selection of non-domestic heating system components and installation strategy.

Calculate sizes of pipework for a given building. M6 Discuss how the selection of different components impacts on an installation strategy. P11 Identify the index circuit and calculate the pipework resistance. P12 Justify the selection of a range of non-domestic heating system components

The recommended word limit is 2,500–3,500 words but you will not be penalised for exceeding the total word limit. Keep in mind that being clear and succinct are key features of professional documents.