

EGB103 Assignment 3 Checklist

Task A

Compute the total *actual* electrical energy consumed (displayed in megawatt-hours) for each chiller.

Task B

Compute the performance curve (COP vs kWR) for each chiller and include a plot that shows both performance curves.

Task C

Create two separate Python functions to estimate kWE, one for each of the Q block chillers based on the performance curves from Task B.

Task D

Compute the total *estimated* electrical energy consumed (displayed in megawatt-hours) for each chiller using functions from Task C.

Task E

Create a Python function that determines how best to use chiller 1 and chiller 2 (based on functions from Task C) to achieve the cooling (kWR) required.

Task F

Incorporate the capacity constraints into the kWE estimation functions from Task C.

Task G

Compute the total *estimated* electrical energy consumed based on our alternative stepping algorithm (from Task E).

Part A

Everything for Part A should be submitted as a single Jupyter notebook. The Python code included should follow best practices as outlined in the lectures, including using well chosen identifier names, writing clear simple code, and not repeating yourself.

DO NOT use any other programming language, library or system (such as R, MATLAB or Excel).

Part B

Present a case study of using computing and data to solve an Engineering problem of your choice.

For Part B, export your case study Jupyter notebook as a PDF document for submission.