



Bioclimatic design

The Collective

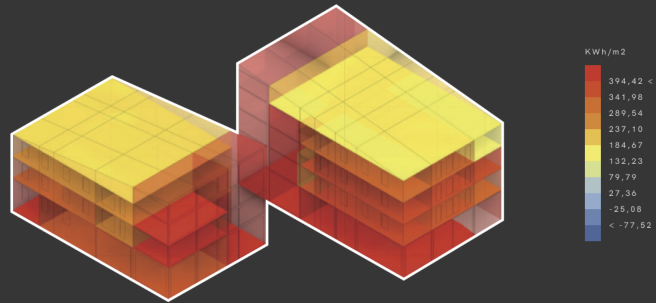
2021

The Collective is a student housing project located in the Moholt Student Village.

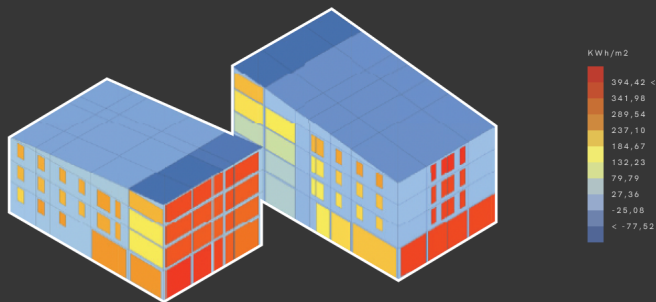
The primary focus of the course was to implement passive design strategies and optimize the building for a temperate continental climate (CFB). This climate poses significant challenges, requiring buildings to be configured in ways that minimize reliance on intensive heating.

The main objective of the project was to reduce heat loss by creating a compact and efficient building form. Additionally, the design strategically maximized solar exposure by orienting spaces with high heating demands toward sunlit areas. Grasshopper scripts played a critical role in evaluating and ensuring the building achieved sufficient bioclimatic performance in line with the selected passive design standards.

Bjarte Knobel



Indoor temperature



Heat loss and gains

By analyzing bioclimatic performance, we iterated designs to suit the specific climate. These images highlight some of the Grasshopper analyses used in our design process.

