DEC EXTEND Award

Design Student Accommodation

DESIGN BRIEF

classofyourown®

HI-TECH STUDENT HOUSING

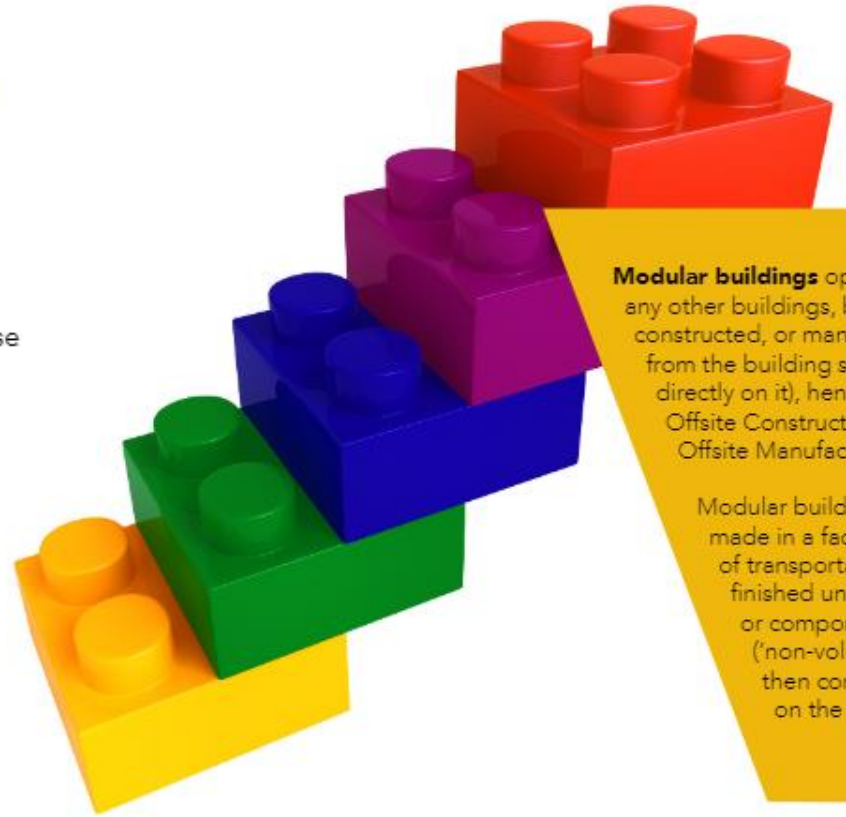
Every year, thousands of students apply to study at university, and many choose to live away from home in accommodation provided on the campus.

Student flats are usually built very traditionally, much like any house or apartment block, with a construction team arriving on site to construct them after they've been designed. This can be a slow and laborious process and not at all in line with the speed at which we need to build to satisfy the demand for homes.

This has seen the rise of **MODULAR OFFSITE MANUFACTURED BUILDINGS**.

This construction technique can be applied to most types of projects such as hotels, holiday lodges, social housing, assisted living housing and student accommodation.

Which is where YOU come in.



Modular buildings operate like any other buildings, but they are constructed, or manufactured, away from the building site (rather than directly on it), hence we refer to Offsite Construction (OSC) and Offsite Manufacturing (OSM).

Modular buildings can be made in a factory in the form of transportable complete, finished units ('volumetric') or components and sections ('non-volumetric') which are then connected together on the building site.

Class Of Your Own Ltd, a social enterprise and creators of Design Engineer Construct!® (DEC), worked with MOBIE and Carbon Dynamics in 2018 to create an extraordinary challenge for UK learners. As a legacy, we are pleased to launch this DEC Extend Award for schools around the world, to enhance learners' awareness of the Built Environment.

THE OFFSITE RULES

In the offsite and modular building and construction sector, we talk as much about manufacturing as we do construction. Modular buildings are designed and manufactured just like products.

Most of the work is done in a dry, safe, controlled hi-tech factory environment, protected from the weather - no more hold ups due to heavy rain or wind!

These types of projects use six simple principles to be successful...

1. Modules conform to transportation sizes:
   Max. 4m wide / Max. 15m long
   Max. 4m high / Max. 15t weight
2. Projects can use replicability of modules to create interesting architectural shapes
3. Offsite manufactured buildings use a standard construction system
4. Designers plan for most of the work to be carried out off-site, increasing speed and reducing risk due to uncertainty
5. Designers plan for ease of delivery, and easy connection of the modules once they are arrive on-site
6. Collaboration is key! Project Managers, Logisticians, Engineers and Joiners all participate in the design process

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THE CHALLENGE

A University near you is seeking to develop sustainable, modular student accommodation responding to the needs of modern students. The University owns land in the area, and could consider demolishing an existing accommodation block if needed to make space for your new modular development!

Think about a space that you would like to live in - a home from home that provides modern, efficient independent living for each student.

A few things to consider:

- The student accommodation must be predominantly made of sustainable materials, such as wood
- It must be a sustainable, cost effective, low energy building
- Each module must be designed so that it can be linked with other identical units in different formations to provide a contemporary design for your student village
- What is the best shape and structure you can use to ensure a block of pods is strong and stable?
- It must be inclusive and accessible to any student

WOOD IS GOOD?

Locally sourced wood is a great, sustainable option for your design. But is it the best? Make sure whatever you use is:

- Low carbon/environmentally friendly
- Beautiful
- Strong
- Stable

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DELIVERABLES

This is what you need to do

Develop a digital model or range of sketches of the completed building (modules joined together)

- Produce bubble diagrams to identify and develop spaces
- Explain and justify your choices for joining the modules together
- Produce drawings of the building envelope and facade

Create a series of drawings conveying the final proposal including site plan, elevation and floor plan

- Drawings should be accurate and to scale
- Include key dimensions of the modules and buildings

Plan and deliver a 10-minute presentation to an audience

- Produce a clear and concise presentation
- Use appropriate language and content
- Present and deliver your presentation professionally

Produce a written project report

- Produce a clear and concise report
- Use appropriate language and content
- Presented and deliver your report professionally

Optional Deliverables

MAKE IT A BIT SPECIAL

Create a physical scale model

- Carefully select materials and tools
- Use technical skills and processes to produce your model
- Make sure your model is to scale, in proportion and functions as intended

Experiment with visualisations and rendering via technology

- Select and use appropriate software
- Your visualisation should enhance the presentation of your design
- Present and deliver your visualisation professionally

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