

Project #3: LIGHT ACCESS AND THE RESIDENTIAL DEVELOPMENT 20%

THIS PROJECT IS TO BE DONE IN GROUPS OF 4 STUDENTS.

The purpose of the project is to understand the effect building spacing, orientation and placement as they affect natural lighting and access to light. This also changes the quality of life in the residential environment/neighbourhood. Residential neighbourhoods of varying building types (single family, multi family, apartments, etc.) all have a need for a certain quantity as well as quality of light. The closeness of buildings also impacts aspects of community, greenspace, privacy and general issues of sustainable design.

The parameters of the project require that you *document* in plan and section, then *construct* a simple model of a neighbourhood of specified size, of specified materials at a specific scale; bring the model to the class seminar where it will be “tested” and compared with other strategies.

SIGN UP LIST:

I will be posting a sign up list in studio.

YOU ARE TO PREPARE YOUR PROJECT BASED ON THE ATTACHED CASE STUDY INFORMATION.

A. PRESENTATION PART ONE:

Document the case study (this is going to require a bit of research in addition to the attached plans so I recommend getting on it right away – check out periodicals, etc. for the information)

- Plan(s) at 1:100 or 1:200 as assigned
- Plans should show ground floor layout of units
- Key site sections at 1:200
- NOTE KEY DIMENSIONS (height of building, overall dimensions in plan, spacings between)
- Photographs of buildings

B. PRESENTATION PART TWO:

Construct a model at a scale to match the site plan drawings

The model will be tested on the heliodon for solar conditions and light access for **winter and summer conditions in class for our latitude (43 degrees N)**

Model Materials and Construction Technique:

- Thin brown cardboard or millboard and foamcore.
- Although I expect a certain level of craftsmanship to be demonstrated in the models, expect that we may wish to use matte knives on them during the

seminar to experiment with different effects... It may be advantageous to make certain pieces removable, fixed with pins rather than glue.

- **VERY IMPORTANT:** *Make the buildings able to be detached from the ground plan and moved about. I would like to be able to experiment with different spacings of these buildings in order to “play” with the light access and quality of space. Note the original orientation on the model (north arrow please). We will rotate the models to see how the orientation impacts solar access. Is East/West better than North/South?? We might even want to combine buildings from different projects into a larger neighbourhood. How does Group A’s Tower cast shadows on Group D’s single family houses???* **This is about learning through research as well as experimentation.**

C. PRESENTATION PART THREE:

Each group will present their case study in class and be prepared to discuss the pros and cons of this type of housing with respect to issues of lighting, natural ventilation, privacy, community space, sustainability issues.

PRESENTATION AND DUE DATE:

In class, Wednesday, March 26 @ 10:00 a.m. We will use the heliodon and fixed light source for the testing.

Footnote: This material is introductory for the subject matter of your design studio for the entire 2A term (which focuses on multi family residential design). It will be expected that you are familiar with the full range of information discussed for ALL case studies.