ARCHITECTURE + PLANNING: PROPOSE A TINY HOME COMMUNITY

THE DESIGN CHALLENGE
By 2050, it is projected that more than two-thirds of the world’s population will live in urban areas. Increasingly dense cities will create unique housing challenges, such as affordability, overcrowding and homelessness. Tiny home communities, or pocket neighborhoods, offer a unique solution that could provide residents with a simple, affordable place to live, while encouraging a strong sense of community and belonging. This division challenges students to design a tiny home community that would provide quality, affordable housing to Bronzeville or Englewood communities.

COMMUNAL SPACE INITIAL PROGRAM
*You can add spaces as you see best fit, those listed below must be included in the Communal Space. Please visit the competition manual for more specifics.

- Meeting Space
- Social Gathering Area
- 1 Office Space for Staff
- Storage Area
- Laundry Facility

PROJECT TIMELINE EXAMPLE
*Setting goals is a great way to use your time efficiently, especially on a project like this. This is just an example so feel free to adjust to what works for you!

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PRECEDENTS
West Englewood Tiny Homes – Landon Bone Baker
South Chicago Micro Housing + Maker Space – Landon Bone Baker
Shipping Container Home – Benjamin Uyeda
Long Studio – 30x40 Design Workshop

Architect’s Micro Studio Apartment – Living Bug in A Tiny House: YouTube
SONU DIGS – Micro Apartments in Chicago
Micro Apartments - Dezeen
Never too small: The aspiration and nausea of micro-apartments – The Guardian
SITE ANALYSIS GUIDE

This site survey guides you to consider questions related to the PROBLEM the client is trying to solve, the physical SITE and the USERS’ needs. For each aspect try to take notes with specific details and really get to know the site.

At this stage you are collecting information, not trying to come up with a solution. You can study the site using maps such as the one on the left or you can physically visit the site itself to get a good understanding of how the site currently interacts with its surroundings.

DEFINE THE PROBLEM

- What is the challenge? What should your design accomplish? Try to get as many specific details as you can about what your client needs/wants/is trying to do. What will success look like for the client? How will you know if the project has been successful?

COLLECT INFORMATION

- What types of structures, buildings or other amenities currently sit on either side of this site?
- How tall are the other buildings around this site? How will the scale of your design compare with the existing structures around it?
- Does the site currently contain any trees or other vegetation? Where? What kinds?
- How would people typically get to this site? (By foot? car?) What kind of transportation is available?
- What will someone see first when they approach the site?

Think about the USERS’

- Who will be using what you design? How many people will need to interact with what you design? Lots of people at a time? A few people at a time?
- What types of spaces or features would your client need?

FUNCTION/USE

A description of how a particular building is used

GRID SYSTEM

A method of laying out roads that run at 90 degrees (horizontal and vertical) to one another; the grid system is one of Chicago’s most recognizable features

HUMAN SCALE

The size and proportion of an object compared to you

INFRASTRUCTURE

The systems of utilities (electrical, gas, power, water, telephone) and transportation networks (roads, bridges, rail lines) in a city

PARK/OPEN SPACE/GREEN SPACE

Land set aside for recreation, as a natural landscape; it typically has a few or no buildings

PEDESTRIAN

A person that moves around the city by walking or using public transportation instead of a car

POPULATION DENSITY

How close people live to other people; population density is usually measured by counting all the people that live within one mile of land

PUBLIC SPACE

Space that is owned by the city and can be used by everyone

PUBLIC TRANSPORTATION

A system of buses and trains for large amounts of people; provided by and for a city and funded in part by public tax dollars

PRIVATE SPACE

Space that is owned by an individual owner may not be used by everyone

URBAN PLANNER

The person responsible for developing a plan that leads to the redesign or growth of a community to determine how land and resources should be used;

URBAN DESIGNER

The person responsible for both the design and the drawings for a specific area of land; urban designers create preliminary designs for buildings and where the buildings will be located
SITE 1: BRONZEVILLE
4318-4324 S VERNON, CHICAGO IL
Bronzeville: 4318-4324 S Vernon, Chicago, IL

Located in the Bronzeville neighborhood, this site is comprised of 4 vacant city lots with overall dimensions of 106’ wide by 120.6’ deep. There is an adjacent building on the lot line to the north where a minimum 3’ setback will be required.
SITE 2: ENGLEWOOD
6324-6336 S WOOD, CHICAGO IL
Englewood: 6324-6336 S Wood, Chicago, IL
Located in the Englewood neighborhood, this site is comprised of 6 vacant city lots with overall dimensions of 152’ wide x 120.6’ deep. There are buildings near the lot line to the north and the south. A minimum 3’ setback is required for each.
ARCHITECTURE + ENGINEERING: SUSTAINABLE TINY HOME

THE DESIGN CHALLENGE
While LEED is the world’s most widely used green building rating system, Chicago also has its own Sustainable Development Policy which guides and provides incentives for using sustainable design practices. This division challenges students to digitally design a sustainable tiny home that responds to at least three of Chicago’s Sustainable Policies.

TINY HOME PROGRAM
*You can add spaces as you see best fit, those listed below must be included in the Tiny Home. Please visit the competition manual for more specifics.
- 350 sq ft max
- Bathroom
- Kitchen
- Bedroom
- Storage Space(s)
- Seating Area

PROJECT TIMELINE EXAMPLE
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PRECEDENTS
F10 House – Escherick Homsey Dodge & Davis
Sustainable Housing 2015 CAB – Tatiana Bilbao
Great Lakes Water School – Oscar Tuazon
Long Studio – 30x40 Design Workshop

Francis Kere TEDTalk – How to Build with Clay and Community: YouTube
Michael Murphy TEDTalk – Architecture that’s Built to Heal: YouTube
Micro Apartments - Dezeen
Never too small: The aspiration and nausea of micro-apartments – The Guardian
SUSTAINABLE STRATEGIES

About Chicago’s Sustainable Policies
The Chicago Sustainable Development Policy provides a menu of sustainable strategies which includes the following categories:

- Health
- Energy
- Storm Water
- Landscapes
- Green Roofs
- Water
- Transportation
- Solid waste
- Workforce
- Wildlife

Architects’ designs should include solutions across these categories and are scored according to the point system specified in the Sustainable Strategies Menu. Each category is worth a set number of points. Combined category points should equal 100 in order to meet the requirements for the sustainable engineering division. Why 100? Planned Development Projects for New Construction require a combined total of 100 points from multiple categories in order to qualify for city approval. Will your design meet the required 100 points?

What do these strategies look like?

**HEALTH**
ENERGY

- Hydro-Electric
- Wind
- Biomass
- Solar
- Recycling
- Waves
- Nuclear
- Tidal
- Geothermal

STORMWATER

When it rains, what goes down the storm drain?

SUSTAINABLE LANDSCAPES

- Inundation Tolerant
- Emergent
- Submerged
ARCHITECTURAL MODELING: SUSTAINABLE TINY HOME

THE DESIGN CHALLENGE
Living tiny isn’t just for minimalists. It can also be a highly sustainable and affordable housing solution. This division challenges students to design and build a physical model of a sustainable tiny home that is no larger than 350 square feet and includes essential amenities such as a bathroom, a kitchen, bedroom, storage space and a seating area. Models must be at 1/2” =1’-0” scale and may be stationary or mobile.

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PRECEDENTS
- Architecture is Everywhere – Sou Fujimoto
- RoundKeep Table – Vladimir Radutny Architects
- Arkansas Art Center – Studio Gang
- Architectural Models – Scala Matta
- Ribbon Connection – Borderless Studio
- Miera Street, Riga – Fine Young Urbanists
- 30x40 Design Workshop – Architectural Model Making: YouTube
- 30x40 Design Workshop – Why Make Architecture Models: YouTube
ARCHITECT SCALE RULERS

Use the scale rulers on this sheet to help you create scaled models. When you print, be sure the scale settings are set to “ACTUAL SIZE” instead of “FIT” so that the rulers are accurate.

- Cut out each scale.
UNDERSTANDING HOW TO MEASURE USING AN ARCHITECT SCALE: Worksheet

If you have never used an Architecture Scale this is a great activity to do.

**Step 1:** Print + Cut the paper scales on an 8.5x11” paper, be sure to follow the printing guidelines.
**Step 2:** Cover the answer key with a paper so you can’t see the answers.
**Step 3:** Use the appropriate scale to measure each of the lines and write down the answer in the empty line on the right.
**Step 4:** Check your answers with the answer key to the right.

Measure the length of the following lines in **1/4”** scale:

1. ____________________________
2. ____________________________
3. ____________________________

Measure the length of the following lines in **1/2”** scale:

4. ____________________________
5. ____________________________
6. ____________________________

Measure the length of the following lines in **1/8”** scale:

7. ____________________________
8. ____________________________
9. ____________________________

**ANSWER KEY**

9’-0”
12’-0”
5’-3”
4’-1”
4’-6”
8’-3”
10’-6”
21’-0”
7’0”
UNDERSTANDING HOW TO DRAW USING AN ARCHITECT SCALE: Worksheet

If you have never used an Architecture Scale this is a great activity to do.

**Step 1:** Print + Cut the paper scales on an 8.5x11” paper, be sure to follow the printing guidelines.

**Step 2:** Use the appropriate scale to draw each of the lines and write down the answer in the empty line on the right.

**Step 3:** Check your answers with a friend and you’re ready to go!

Draw a line that is 10'-3" and a line that is 7'-0" in 1/4" scale:

1. 

2. 

Draw a line that is 7'-6" and a line that is 12'-0" in 1/2" scale:

3. 

4. 

Draw a line that is 6'-0" and a line that is 20'-0" in 1/8" scale:

5. 

6. 

**HINT!**

If you are in a situation where you need to figure out inches, use the small “ruler” found next to the scale text!

Be sure you start measuring at the “0” not after otherwise you could find yourself being 1’ over!