INTRODUCTION

As the second part of the first year basic design education within the curriculum of the department, City and Regional Planning, CRP 102 is a studio course consisting of lecturing, and design and drawing laboratory sections for nine semester hours of credit. As before, the team of instructors facilitate the introductory lectures in order to define and discuss the basic concepts to be utilized for the new assignments which are based on individual design and drawing exercises.

The basic aim of the studio is to help students to advance the notion of composition with the ability of visual representation, which has already been improved in the early semester based on abstract thinking. The fundamental difference of this semester’s programme from the previous one is that the current curriculum reinterpret the notion of composition within the third dimension. Previously discussed *figure-ground* relations in graphic compositions, in the new context, are reconsidered as *solid-void* relationships through enclosed and open volumetric entities defined by masses and planes. With such a shift in mental orientation, an improvement in the capacity of perceiving and controlling the third dimension in planning education is aimed. While the basic design principles introduced in the first semester are still valid, students are expected to contemplate the relevant reflection of those principles in consideration to the specificities of the three-dimensional space and form relationships.

Upon the new compositional perception, the students are introduced with the fundamental knowledge of spatial design and morphology. During the design exercises, the students will learn what the form of a city is composed of and how the basic elements are put together in a coherent manner. Starting from the elementary form of living unit and coming up with the collective form of the city, the studio pursues a bottom-up design process. Yet at the same time, during the design of city, designating the structure of the whole settlement, the students learn how to govern the whole urban composition of the settlement. This connotes a certain kind of top-down reasoning in design. The combination of these two approaches in design thinking derives from the long-established tradition of basic design education in city planning at METU (Günay, 2007).

Following a successive process starting from the elementary form of a living unit and then ending up with the collective form of the city, students will basically capture the recombinant nature of spatial and morphological design. While doing that they apply the special requirements (i.e. individual and collective needs) and the specific levels of detail for each design scale within a comprehensive process.

While achieving higher complexities in form-composition, the students are asked to formulate simple (configurationally) rules of design. By this way, application of the basic design principles in
spatial and morphological design is aimed to posit in a rule-based framework following the intuitive one developed in the previous semester.

At the end of the studio course, students should observe, perceive, understand, (re)interpret, and communicate spatial and morphological phenomena through applying the basic representation techniques which was already introduced in the first part of the programme. Within this context, model making is the prominent technique to represent and communicate the three-dimensional compositions made in the studio. Therefore solid models is not regarded solely for presentation but also for developing the design idea in the core of design process.

Within this framework, the learning objectives of the course could be stated as follow:

- acquiring and improving drawing and modelling skills to visualise the complex morphology of 3D spatial compositions,
- defining proper levels of abstraction for certain levels of detail applied for each level of scale (scalar hierarchy),
- formulating the set of simple rules behind any design composition,
- using the formal ordering tools (i.e. grid-structure, spatial frame) to control the composition of collective forms,
- achieving a clear understanding on the notion of spatial hierarchy in design the system of public space.

**COURSE STRUCTURE**

The studio meets thrice per week for nine hours in total. In a typical studio session, students are expected to engage in drawing and/or design exercises directly, and receive guidance and desk critique from the instructors and assistants of the course. Lectures are designed so as to support these exercises. In the lectures, students are introduced with the conceptions and techniques applied to the assigned design problems.

In addition to the informative sessions of the introductory lectures, studio sessions will comprise collective discussions initiated by the introductory critiques of the instructors. Within collaborative plenary sessions (pin-ups), the students are expected to contribute the common critique of the design works (either on his/her design scheme or those of other students) by reflecting on the outcome in the light of the concepts and principles discussed.

Two types of exercises are pursued during the studio education. While the first type design exercise is about the fundamentals of basic design thinking (i.e. framing, composition and patterning), the second one concentrates on the basic techniques of graphic communication (perspective and free-hand drawing). The two sorts of exercises are aimed to associate and contribute to the creative form exploration processes within the final assessment of the course.

In order to exercise the real conditions of the design context, the studio programme involves a site visit. By visiting the selected site for design, the students are provided with the ability to observe and recognise the constraints and opportunities within the given geomorphological context to be utilised as active inputs for design alternative design solutions.
REQUIREMENTS AND PERFORMANCE EVALUATION

All students will be evaluated with reference to:

**Attendance:** Attendance is essential. Students should arrive to class promptly and remain engaged with the studio work for the entire scheduled class. Attendance will be taken regularly. Late arrivals and early departures will be considered unexcused absences. Exceptional circumstances may warrant an excused absence. For such absences, students must provide a note to their instructors/assistants with their name, date, reason of absence, and appropriate supporting evidence, such as a doctor’s note.

**Active participation and engagement:** Active participation in class mainly includes involvement to the course discussions and collaboration in the management of the studio. Students must be fully engaged with studio work during the class time. They should always bring the required class materials and their work to the studio with them, continue working on their assignments, and be ready to present them to the class whenever they are asked to.

**Journal:** Each student will keep a personal logbook. These logbooks will be used to record personal observations, ideas, what they have learned in studio lectures/pin-ups/critiques/field-trips, useful and striking phrases, inspiring poems or song lyrics, etc. and to draw and sketch.

**In-class exercises:** Students will be engaged in a number of in-class exercises, such as line-drawing, free-hand sketching, and model-making exercises. They are expected to complete these exercises within the day they are assigned, and should submit their work to their instructors at the end of the class time.

**Take-home assignments:** Design exercises need a certain level of contemplation, which is somehow hard to experience in the busy environment of the studio. Therefore, under the guidance of the studio instructors, students start producing the first drafts of the design exercises in the studio, but develop and finalize their work at home. Students are expected to submit their final product to their instructors no later than the designated day and time on which students need to turn in their assignments. Students present their work in the pin-ups.

**Assignments:** Throughout the semester, students will be asked to complete sixteen assignments. The due date of each assignment is different and do not necessarily follow an order.

- **Assignment.01:** *Designing the Spatial Cube (composition in the 3rd dimension):* By using sticks, construct a 33*33 cm cubic frame in which volumes of internal spaces are to be composed by using the division planes of Strathmore.
- **Assignment.02:** *Design a living-unit* (approximately 450 m² area in total) accommodating the basic activities of a human-commune involving around ten to fifteen persons in different patterns of social relationships.
- **Assignment.03:** *Design a compact building cluster* composed of three to four living units attaching each other in the way that minimum one façade of each is open for access to the inside.
• **Assignment.04:** *Site analysis for designing the city.* Make a cartographic analysis of the given site, *Tlos* antique city (Fethiye, Muğla), in order to reveal the geomorphological characteristic of the area, and to explore the opportunities and constraints to be considered in design.

• **Assignment.05:** *Design your own city.* Make an initial design drawing to elaborate the composition of new settlement proposed on the existing site of Tlos.

• **Assignment.06:** *Finalisation of the design proposal* for the urban composition of the new *Tlos*, the ground settlement.

• **FINAL PROJECT:** *Designing the ‘Spatial City’:* Design a structural frame (space frame) supported by columns (stilts) to be superimposed on the final design model of the ground settlement.

**GRADING:**

Instructors grade the exercises on a series of criteria such as craft, technique, design idea, principles related to organization, composition, and engagement. Each assignment covers distinct set of criteria, which students are expected to meet. For each assignment, the evaluation criteria will be clearly stated by the instructors in the studio sessions.

No redo projects required during this semester.

A course grade will be calculated based on the following outcomes, 100 percent possible:

- Attendance and engagement: 10%
- Journal: 3%
- In-class exercises: 7%
- Assignment 1 (*spatial cube*): 10%
- Assignment 2 (*living unit*): 10%
- Assignment 3 (*cluster + ensemble*): 10%
- Midterm project (*ground settlement*): 20%
- Final project (*spatial city*): 30%

**DRAWING MATERIALS AND TOOLS**

- **logbook** Moleskine (or similar) sketchbook, small or medium format
- **rulers** parallel rule (*gerçiz cetvel*), metallic ruler (*çelik çetvel*), 30-60 and 45-degree triangles with inking edges, compass (*pergel*), variety of French curves
- **drawing pencils** lead holder (*portmin*), leads – 6H, 4H, 2H, HB, 2B (*portmin uçları*), lead pointer (*portmin açacağı*), and sketch pencils (4H, 2H, HB, B, 2B, 4B) and pencil sharpener.
- **drawing papers** tracing paper (roll/single, white), 2-ply Strathmore (beyaz çizim kağıdı ağırlık: 80 gr.; büyüüklük: 70 x 100cm.),
- **model making materials** cardboard (*mukavva. kalınlık: 3mm.; büyüüklük: 70 x 100cm*), corrugated cardboard (*oluklu mukavva. kalınlık: 3 mm.; büyüüklük 50*70 cm*), opaque acetate, wooden (construction) sticks (2 mm to 6 mm in thickness), wire mesh (three 40*40 cm), small silicon gun, small wire-cutter (*yankeser*).
COURSE OUTLINE

Week 1-2 INTRODUCTION: introduction to the semester’s program.
- What is expected? Why to learn? How to do?
  - Assignment.01: Designing the Spatial Cube: composition in the 3rd dimension
    o By using sticks, construct a 33*33 cm cubic frame in which volumes of internal spaces are to be composed by using the division planes of Strathmore.
    o The cubic wireframe is to be regarded as the frame of reference for your 3D spatial composition. The planes will be utilized to imply the (sub)spaces (space-frames) rather than covering the complete surface of the internal divisions.
    o Apply the main principles of basic design (i.e. similarity, connectedness, closure, symmetry) in the composing the spatial relationships (Feb 16, 2015)
  - Lecture.01 Orthographic projection review
    o In-class exercise and individual critiques. (Feb 17, 2015)
  - Work on Assignment 01 (in-class exercise and individual critiques). (Feb 19, 2015)
  - Work on Assignment 01 (in-class exercise and individual critiques). (Feb 23, 2015)
  - Lecture.02 Perspective drawing
    o In-class exercise and individual critiques. (Feb 24, 2015)
  - Work on Assignment 01 (in-class exercise and individual critiques). (Feb 26, 2015)

Week 3-4. LIVING-UNIT
- Assignment.01 due – Pin-ups and class feedback.
- Lecture.03: Living-unit as the basis of private life and the constituent of collective fabric.
• Assignment.02: *Design a living-unit* (approximately 450 m² area in total) accommodating the basic activities of a human-commune involving around ten to fifteen persons in different patterns of social relationships.

![The living unit. (Günay, 2007)](image)

- Apply the main principles of basic design (i.e. order, closure, proximity and balance) via using the same technique introduced with the cubical space-frame design.
- As well as the internal spatial organization of the unit, take the potentiality of the unit to make different combinations with the other units in the same type.

• Lecture.04: *Architectural sketching technique*
  - In-class exercise and individual critiques. (Mar 3, 2015)

• Work on Assignment.02 (in-class exercise and individual critiques). (Mar 5, 2015)

• Work on Assignment.02 (in-class exercise and individual critiques). (Mar 9-10-12, 2015)

**Week 5-6  CLUSTER & ENSEMBLE**

• Assignment.02 due – Pin-ups and class feedback.

• Assignment.03: *Design a compact building cluster* composed of three to four living units attaching each other in the way that minimum one façade of each is open for access to the inside.
  - Ensure maximum daylighting for all the facades in configuration.
  - Consider the potentiality of alternative group-forms with the same type of other clusters to create shared open (semi-public) spaces. Revise your unit if necessary in order to improve its performance.
  - Abstract your living unit by simplifying the parts of the building composition in order to reproduce several units for clustering easily.
  - Having decided how your cluster is composed, design a possible form of *ensemble* (group of compact-clusters) in the way that they define a common space together. Depending on the original composition of the cluster, each ensemble should have three to four clusters suggesting a new compositional whole.
Define the basic *compositional rules* when you arranging your units to come with higher-level of form-composition, cluster and ensemble.

- Scale: 1/400 (cluster) and 1/500 (ensemble)
- Material: corrugated cardboard (Mar 16, 2015)

- Work on Assignment.03 (in-class exercise and individual critiques). (Mar 17-19, 2015)
- Work on Assignment.03 (in-class exercise and individual critiques). (Mar 23-24-26, 2015)

**Week 7-8.** SETTLEMENT (*TLOS*)
- Assignment.03 due – Pin-ups and class feedback. (Mar 30, 2015)

- Lecture.05: *Designing the city*
  - Basic elements of urban form: *streets, squares, open-spaces, buildings and the built fabric.*
  - The principle elements constituting the image of the cities: *path, node, district, edge, landmark*
  - The main aspects in the design of cities: *border condition(s), centrality and publicness, circulation and access.*
• Assignment.04: Site analysis for designing the city. Make a cartographic analysis of the given site, Tlos antique city (Fethiye, Muğla), in order to reveal the geomorphological characteristic of the area, and to explore the opportunities and constraints to be considered for your prospective design in accordance with the main aspects discussed in the lecture. Make a solid model of the site to understand the site-specific conditions of the design context.

• Work on Assignment 04 (in-class exercise and individual critiques). (Apr 2, 2015)

• Assignment.04 due – Pin-ups and class feedback.
• Assignment.05: Design your own city. Make an initial design drawing to elaborate the composition of new settlement proposed on the existing site of Tlos.
  o Take the remaining structures (major civic buildings, theater, forum etc.), traces of streets and building blocks, and the infrastructural foundations (i.e. canals, cistern) in to consideration and integrate them within your own system proposed
  o Indicate the elements of the image of the newly designed city (i.e. major landmarks, main axes (paths), and nodes on which the public spaces are created by buildings)
  o Ask the main design questions when you develop your design:
    ▪ What kind of spaces needed for different kinds of activities (centrality and publicness)
    ▪ How the different parts of the settlement are connected? (circulation & access)
    ▪ How does my settlement ends? (border condition) (Apr 6, 2015)

• Work on Assignment.05 (in-class exercise and individual critiques). (Apr 7-9, 2015)

Week 9. FIELD TRIP

• Departure from Ankara (Apr 12, 2015)
• Site visit: Surveying the site of Tlos ancient settlement to reveal;
  • location, access and orientation of the city within its broader geographical context,
• internal structure of the town, with regards to the remaining elements of urban form (i.e. amphitheatre, castle, rocktowns),
• characteristics of the terrain on which the city had been built in consideration to the main futures like hilltops, plateau and cliffs.
  o Test your initial design ideas you developed before the site visit through revealing the actual site conditions.
  o Make your inventory by sketching. Draw everything you see critical for your design idea and take supplementary notes to memorize what you recognized on site (Apr 13-14-15, 2015)

• Arrival to Ankara (Apr 16, 2015)

**Week 10-11.** GROUND SETTLEMENT revisited

• In-class exercise: Organize your findings updated after the site visit upon the map by using graphic notations, notes, sections and sketches.

• Collective discussion on the observations made during the site visit: Which aspects should we reconsider in design? How can we take them as input to our design process?

• Assignment.06: **Finalize your design proposal** in the light of the findings of your survey and analysis. Make a solid model showing the new spatial structure and form of the designed city.
  o Re-arrange the topography of the area if it’s needed within your design scenario. (Remember what you did last semester!)
  o In addition to the type of living-unit and cluster you have developed so far, suggest another type of unit to compose varied collective forms within the final design of the settlement.
  o Apply the basic design principles (i.e. order, continuity, proximity, similarity, tension and balance) while designing the form of your settlement in order to achieve a coherent composition suggesting variation within unity.
  o Draw sketch diagrams on how the units are configured to form clusters and ensembles (*rules of composition*) which in turn define the collective form of your city.

• Work on Assignment.06 (in-class exercise and individual critiques). (Apr 21, 2015)

• Work on Assignment.06 (in-class exercise and individual critiques). (Apr 27-28, 2015)

• **MID-JURY:** 1/2000 design model + sketch drawings showing the conceptual structure of urban form and the compositional rules of living-clusters and ensembles. (Apr 30, 2015)
Week 12-14. ‘SPATIAL CITY’

- Lecture 06: Introduction to ‘Spatial City’ (*Ville Spatiale*), the ideal model of suspended and multilayered city suggested by Yona Friedman.
  - Possibility of revisiting the concept of ‘frame of reference’ in the context of designing 3D urban form. The idea of ‘space frame’ as a new interpretation of the concept in the city design.
  - Rule-based design: designing the collective form through flexibility, modularity and aggregation based on simple (compositional) rules + structural frame.
  - Basic parameters of designing the ‘Spatial City’: the conditions of light and access, and the relationship between ground-city and the structural skeleton (space frame).

- FINAL ASSIGNMENT: Designing the ‘Spatial City’ Design a structural frame (space frame) supported by columns (stilts) to be superimposed on the final design of the ground settlement. After picking up a segment (15*15 cm frame) from the previously designed settlement (1/2000 scale plan), demonstrate how the ground-level fabric could be reproduced within the spatial frame as the suspended extension of the city. Represent your design with a 1/500 solid design model.
  - Construct your space frame by using wooden sticks covering 50*50 cm ground surface area, distancing to the ground at an interval of 8-12 cm, and having a vertical depth of 10 cm.
- Make a spatial composition out of the modular living-units to be defined only by external surfaces. Use the same technique of spatial definition by planes as utilized in design.
- Make sure that the internal composition is visually penetrable. Consider how the solid-void relationships can be ensured within a balanced Gestaltic composition.
- Consider how the places on ground on which the columns (of the space frame) are constructed could be re-designed.
- Design rules of the Spatial City:
  - No complete (physical) blockage of any neighboring unit. (Each unit should have at least one open façade for access)
  - No free-standing unit. (physical continuity)
- Scale: 1/2000. Material: opaque acetate, wire mesh (three 40*40 cm), small silicon gun, 5*5 mm wooden sticks, small wire-cutter (yaneser) (May 4, 2015)

  - Work on final project (in-class exercise and individual critiques). (May 5-7, 2015)
  - Work on final project (in-class exercise and individual critiques). (May 11-12-14, 2015)
  - Work on final project (in-class exercise and individual critiques). (May 18-21, 2015)

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**Final Week. JURY. (May 25, 2015)**

**READINGS**

There are no required readings for this course. The following books are recommended for reference.


**Websites:**  
Yona Friedman, [http://www.yonafriedman.nl/](http://www.yonafriedman.nl/)  