# General Information:

Name of Course: Descriptive Geometry 2.

Course Code: EPE133ANEA

Semester: 2nd

Number of Credits: 4

Allotment of Hours per Week: 1 Lecture and 2 Practical Lessons /Week

Evaluation: Exam

Prerequisites: -

Responsible lecturer: Gombo-Ochir Enkhjin, doctoral student

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## General Subject Description

This lecture and practical based course aims to develop the skills of architecture students regarding the following topics, in frame of descriptive geometry: Application of imagery methods used in architecture and by related branches of building industry and civil engineering, internalizing of switching among these in frame of the descriptive geometry. Detection and application of relation of sizes regarding projected elements by use of geometrical constructions and imagery.

The studied imagery methods of this course are bases of the conventional axonometric projections, central projection like central axial collineation, orthogonal projections like Monge-system and multi view orthographic projection as well as bases of the contour map system.

## Learning Outcomes

The course will focus on architectural drawing types, like Monge-system, axonometric views and the connection of these projection types. Students have to learn the rules of technical drawing, understand the spatial objects based on these drawings and be able to apply their knowledge in architectural framework.

## Subject content

Through the study and analysis of international architectural examples, the lectures will provide students with impulses that will help them not only to solve the practical task of Descriptive Geometric 2, but also the design task of Descriptive Geometry 2. In addition to architectural examples, they are also introduced to the conceptual design process system.

In the practical lessons, the theoretical knowledge acquired is applied. In the group session, architectural spaces and masses are to be designed from given module elements in the assigned grid area. In all practical classes, students must present themselves with a model, current drawings and drawing tools.

## Examination and evaluation system

*In all cases.* *Annex 5 of the Statutes of the University of Pécs, the* ***Code of Studies and Examinations (CSE) of the University of Pécs*** *shall prevail. https://english.mik.pte.hu/codes-and-regulations*

**Attendance:**

In accordance with the Code of Studies and Examinations of the University of Pécs, Article 45 (2) and Annex 9. (Article 3) a student may be refused a grade or qualification in the given full-time course if the number of class absences exceeds 30% of the contact hours stipulated in the course description..

The effective and active participation on the classes is obligatory. The maximum amount of the missed practical classes is 4 per semester due to the Study and Examination Regulations.

Method for monitoring attendance: attendance sheet

**Assessment**

*Course-unit with final examination (PTE TVSz 40§(3))*

**Mid-term assessments, performance evaluation and their weighting as a pre-requisite for taking the final exam**

|  |  |  |
| --- | --- | --- |
| **Type** | **Assessment** | **Ratio in the final grade** |
| Mid-term presentation | 20 points | 20 % |
| Final presentation | 80 point | 80 % |

**Requirements for the end-of-semester signature**

***Re-takes for the end-of-semester signature*** *(PTE TVSz 50§(2))*

**Type of examination** (written,)

The exam is successful if the result is minimum 40%

**Calculation of the grade (TVSz 47§ (3))**

The mid-term performance accounts for 50%, the performance at the exam accounts for 50% in the calculation of the final grade.

**Calculation of the final grade based on aggregate performance in percentage**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Grade: | 5 | 4 | 3 | 2 | 1 |
|  | A, excellent | B, good | C, avarage | D, satisfactory | F, fail |
| Performance in % | 85%-100% | 70%-84% | 55%-69% | 40%-54% | 0-39% |

**The subject supervisor and/or the lecturer of a given subject has the right to offer a grade to a student in a given subject, which, if accepted by the student, will be recorded in the Neptun. The student does not have to apply for an exam to have the grade offered and accepted by the student recorded in the Neptun.**

## Readings and Reference Materials

In order of relevance. (In Neptun ES: Instruction/Subject/Subject details/Syllabus/Literature))

Required:

Lesson notes, helps, sample tasks, examples given, TEAMS

Architectural graphing <https://issuu.com/pte_mik_english_edu_material/docs/architectural_graphing_k>

[Ching, F. Architecture: form, space, & order](http://joom.ag/mLhb)

[Ching, F. Architectural graphics](http://joom.ag/mLhb)

Ching, F. Introduction to architecture

Recommended:

Minor Clyde Hawk, Schaum's Outline of Theory and Problems of Descriptive Geometry

Julia McMorrough, Drawing for Architects

Francis D. K. Ching, Architecture – Form, Space and Order

Philip Jodidio:Architecture Now! 2001 Taschen

Schittich, C.2000. Single family houses: concepts, planning, construction Basel:Birkhhauser

Janáky, I. 1999. A hely. Budapest:Műszakikiadó

Le Corbusier, C.1981. Újépítészetfelés. Budapest: Corvina

Gausa,M. 2001. Szabadonállócsaládiház: a magánélettere. Budapest Terc

dr. ReischlAntal:Lakóépületek tervezése, Budapest 1976 Tankönyvkiadó

Ernst Neufert; Építés- éstervezéstan, Budapest Pécs 1999. Dialóg Campus Kiadó

BitóJános: Lakóházaktervezése, Lap- ésKönyvkiadókft 2004[[html](https://t.umblr.com/redirect?z=http%3A%2F%2Ftajvedelem.hu%2FTankonyv%2FBito%2Findex.html&t=ZjNhMmZmODE4ZTQ5Mjk5ODM3NWEyODJiZTllZDNmZDJlMGYzN2Y4OCwwMkxxOWU0UA%3D%3D&b=t%3ApHPYZ9y4GLNwksXyQtLwvQ&p=http%3A%2F%2Fdigitalistananyagok.tumblr.com%2Fpost%2F65626660259%2Flakohazak&m=1)] [[pdf](https://t.umblr.com/redirect?z=http%3A%2F%2Ftajvedelem.hu%2FTankonyv%2FBito%2FBito_konyv.pdf&t=ZWI0OTljM2JmYzFiMmRmZTlkN2VkYzFhOTYyOWI3OWM5ZjMyMGU4ZSwwMkxxOWU0UA%3D%3D&b=t%3ApHPYZ9y4GLNwksXyQtLwvQ&p=http%3A%2F%2Fdigitalistananyagok.tumblr.com%2Fpost%2F65626660259%2Flakohazak&m=1)] [[epub](https://t.umblr.com/redirect?z=http%3A%2F%2Ftajvedelem.hu%2FTankonyv%2FBito%2FBito_konyv.epub&t=MTYxNzFmZmQ1ZGM2MmZhMWMxZTdiOWVjZDA4MTljOTA0NzM5Njg2MywwMkxxOWU0UA%3D%3D&b=t%3ApHPYZ9y4GLNwksXyQtLwvQ&p=http%3A%2F%2Fdigitalistananyagok.tumblr.com%2Fpost%2F65626660259%2Flakohazak&m=1)]

Könyv az építészetről-A tervezés gyakorlata I. Pécs 1998 PécsiTanodaAlapítvány

Philip Jodidio:Architecture Now! 2001 Taschen

Schittich, C.2000. Single family houses: concepts, planning, construction Basel:Birkhhauser

Julia McMorrough: Drawing for Architects

Antony Radford : A modern építészet elemei

BIG: yes is more

[Ching, F. (1996). Architecture: form, space, & order (2nd ed). New York: Van Nostrand Reinhold](http://joom.ag/mLhb)

[Julius Panero, Martin Zelnick (1979) Human Dimension and Interior Space: A Source Book of Design Reference Standards ISBN 0823072711. Watson-Guptill](http://joom.ag/WYhb)

[Francis D. K. Ching (2002) Architectural Graphics Fourth (4th) Edition. JOHN WILEY & SONS, INC.](http://joom.ag/DLhb)

<https://www.archdaily.com/>

<https://www.designboom.com/architecture>

<https://www.dezeen.com/architecture/>

<https://www.domusweb.it/en/architecture.html>

<https://divisare.com/>

## Methodology

The course is based on continuous communication between teachers and students.

Method:

1. continuous consultation during class time, according to the syllabus announced in the detailed course programme

2. independent work during class time according to the semester timetable announced in the detailed course programme

3. independent work at home

4. independent research, data collection, analysis

**Methodological aspects:**

In the practical class and at home, you will work continuously according to the instructions given in the previous practical class. The student will have the opportunity to master different graphic representation techniques of freehand technical illustration, in addition to presenting the building in an accurate and correct way. In the production of physical models, the student will become familiar with the technical concepts of modelling and the different types of cardboard.

## Students with Special Needs

Students with a disability and needs to request special accommodations, please, notify the Deans Office. Proper documentation of disability will be required. All attempts to provide an equal learning environment for all will be made.

*Detailed requirements and schedule of the Course*

**Tasks and their requirements**

**The exercises and scores of the semester:**

Mid-term presentation: 20 points

Final presentation: 80 points

**Mid-term presentation:**

Presentation: maximum 20 points

Retake maximum: 12points

Instruction:

-concept analyse (floor plans, axonometry)

-Site plan M 1:200

-Floor plans (2 pieces) M 1:200

-Sections (2 pieces) M1:200

-Facades (4 pieces) M1:200

-Axonometry 1 different axonometric projections )M1:200

-Physical model with nice details (openings, slabs, textures) M1:200

Format: 2-3 mm paper board covering

Sketch paper for drawings

Normal A4 paper for back-ups

Landscape layout and left side binding

**Final presentation:**

Presentation: maximum 80 points

Retake maximum: 32 points

Instruction :

-concept analyse (floor plans, axonometry)

-Site plan M 1:200

-Floor plans (2 pieces) M 1:200

-Sections (4 pieces) M1:200

-Facades (4 pieces) M1:200

-Axonometry (3 different axonometric projections )M1:200

-Physical model with nice details (openings, slabs, textures) M1:200

Format: Sketch paper poster

**Requirements in exam period:**

If the student fulfills every requirement in the study period, and accepts the offered grade they have no other task in the semester.

If a student does not fulfill the tasks during the semester they have one opportunity to replace it in the 15th week.

**Task introduction:**

GRID TASK:

On a predefined, fictitious design site, a composition with a given size and number of masses is to be designed so that the building mass reacts to the given natural site without compromise. The ideal, conscious form between the masses and the spaces bounded by the masses must be found. The form created must respond to the given natural effect (forest, water, wind)

The function: camping accommodation for a family of 4.

As the function is camping accommodation, there does not need to be a closed space connection between the main functions. (e.g.: there is no need for a closed space from the bedrooms to the living room)

The mass composition consists of about 4-6 masses. Cohesion between masses is important, i.e. the organisation of the courtyard between masses.

The functions:

Living room

Kitchen dining room

Parents' bedroom and bathroom

Bedroom for 2 children and bathroom

Stairs

Terrace

Hobby and more

The site has a 1.5 \* 1.5 m grid. There is no exit from this grid. Trees placed on the site may not be felled, so no masses may touch their trunks. Masses may be placed on the water surface of the site where justified.

Mass compositions must be made up of small elements (1.5m\*1.5m\*1.5m) and large elements (3m\*3m\*3m).

Any number of small elements can be used, but the size of one must always be 1.5m.

Use of large elements for large functions (living room, kitchen, dining room, bedroom)

Use of small elements for small functions (bathroom, storage, staircase if enclosed, walkway if enclosed, fence)

It is recommended to use 6 to 10 large elements and a maximum of 3 can be assembled into a single mass on one level.

Small elements can be used to vertically increase the height of large elements (4.5m height)

All compositions must have an upper level.

An important part of the task is to furnish the floor plans.

An important part of the composition is to determine the material of the masses, which is coherent with the natural influence (water, forest, wind). (maximum 2 materials). Use of materials per mass.

Structural thicknesses:

wall: 30cm

slab: 30cm

covering: 30 cm

## Program :

|  |
| --- |
| Lectures |
| week | **Topic** | **Compulsory reading; page number****(from … to …)** | **Required tasks (assignments, tests, etc.)** | **Completion date, due date** |
| 1. | Orientation of the semester |  |  |  |
| 2. | Concept creation, building examplaes |  |  |  |
| 3. |  |  |  |  |
| 4. | Concept creation, building examplaes |  |  |  |
| 5. |  |  |  |  |
| 6. | Concept creation, building examplaes |  |  |  |
| 7. |  |  |  |  |
| 8. | Concept creation, building examplaes |  |  |  |
| 9. | **Spring holiday** |  |  |  |
| 10. | Concept creation, building examplaes |  |  |  |
| 11. |  |  |  |  |
| 12. | Concept creation, building examplaes |  |  |  |
| 13. |  |  |  |  |
| 14. | Concept creation, building examplaes |  |  |  |
| 15. |  |  |  |  |

|  |
| --- |
| Practice |
| week | **Topic** | **Compulsory reading; page number****(from … to …)** | **Required tasks (assignments, tests, etc.)** | **Completion date, due date** |
| 1. | Introduction of the semester task. cube model |  |  |  |
| 2. | Conception making (cube model/ drawing) |  | home work | next practice |
| 3. | Conception making (cube model/ drawing) |  | home work | next practice |
| 4. | Conception making (cube model/ drawing) |  | home work | next practice |
| 5. | Conception making (**new** model/ drawing) |  | home work | next practice |
| 6. | Conception making (**new** model/ drawing) |  | home work | next practice |
| 7. | Mid- term presentation |  | home work | next practice |
| 8. | Retake Mid- term presentation |  | home work | next practice |
| 9. | Spring holiday Drawing (furnished plans)(fasade coverings) |  | home work | next practice |
| 10. | Drawing (furnished plans) |  | home work | next practice |
| 11. | Drawing (furnished plans) |  | home work | next practice |
| 12. | Drawing (furnished plans)(fasade coverings) |  | home work | next practice |
| 13. | Drawing (furnished plans)(fasade coverings) |  | home work | next practice |
| 14. | **DEDLINE OF THE SUBMISSION** | **Practice time É81**  |  |  |
| 15. | **DEDLINE OF THE RE-SUBMISSION** | **Practice time É81**  |  |  |

We reserve the right to make changes to the details of this course syllabus (date / location / clarifications), which will be communicated to the students. In case of questions and problems that arise during the semester contact the responsible lecturer or the study program coordinator.

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Pécs, 25.01.2023



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