



COURSE DESCRIPTION CARD - SYLLABUS

Course name

Theory of Composition in Architectural Design [S1Arch1>TKwPA]

Course

Field of study

Architecture

Year/Semester

1/2

Area of study (specialization)

–

Profile of study

general academic

Level of study

first-cycle

Course offered in

Polish

Form of study

full-time

Requirements

compulsory

Number of hours

Lecture

30

Laboratory classes

0

Other

0

Tutorials

0

Projects/seminars

30

Number of credit points

4,00

Coordinators

Lecturers

Prerequisites

-the student has an orderly, theoretically founded general knowledge including key knowledge of issues related to shaping the composition, -the student has a basic knowledge of development trends within form shaping, - the student knows the basic methods used in solving design tasks in the field of/ in respect of shaping the composition, -the student has the basic knowledge necessary to understand the social determinants of activity related to the proper shaping of space - the student is able gain information from literature, databases and other properly selected sources ; is able to integrate obtained information, interpret them, as well as draw conclusions, formulate and justify opinions, -the student is able to prepare well-documented study on issues related to the main trends and tendencies in composition; the student has the ability to self-study -the student is able to make a critical overall analysis and assess the importance of design solutions in the field of composition, -the student is able to use information and communication techniques involving artistic means of expression appropriate for the implementation of tasks typical for shaping the composition, - the student understands the need of lifelong learning; the student can inspire others to learn, - the student is aware of the importance of the non-technical aspects and effects of project activity, including its impact on the environment and on the spatial context, and consequently associated responsibility for decisions taken related to the appropriate spatial design, -the student correctly identifies the dilemmas related to the profession of an architect, the student has awareness of the social role of a technical university graduate; understands the need to formulate opinions, in particular on technological achievements and other aspects of engineering activities and transmit them to the public, through mass media; the student makes efforts to provide such information and opinions in an understandable way, - the

student is able to interact and work in a group, assuming various functions therein

Course objective

LECTURES: -presenting the basic principles of composition, in line with modern aesthetic canons
-presenting the design process involving basic architectural work tools of an architect and fundamental composition issues in design -presenting psychophysical human-object relations and design principles consistent with the perceptive capabilities of the recipient - continuity and evolutionary nature of changes in the flat and spatial composition design EXERCISES: -learning psychophysiological processes and determinants of vision and perception process -learning the theory and various types of graphic and spatial compositions -solving problems concerning flat and three-dimensional composition, with particular reference to their legibility resulting from maintaining the right proportions and relations between elements.

Course-related learning outcomes

Knowledge

Student knows and understands:

A.W1. architectural design for the implementation of simple tasks, in particular: simple facilities taking into account the basic needs of users, single- and multi-family housing, service facilities in residential complexes, public facilities in an open landscape or in an urban environment;

A.W4. principles of universal design, including the idea of designing spaces and buildings accessible to all users, in particular for people with disabilities, in architecture, urban planning and spatial planning, and ergonomic principles, including ergonomic parameters necessary to ensure full functionality of the designed space and facilities for all users, especially for people with disabilities

Skills

Student can:

A.U1. design an architectural object by creating and transforming space so as to give it new value - in accordance with a given program that takes into account the requirements and needs of all users;

A.U5. think and act creatively, using the workshop skills necessary to maintain and expand the ability to implement artistic concepts in architectural and urban design;

A.U6. integrate information obtained from various sources, formulate their interpretation and critical analysis;

A.U7. communicate using various techniques and tools in a professional environment appropriate for architectural and urban design;

A.U9. implement the principles and guidelines of universal design in architecture, urban planning and spatial planning.

Social competences

Student is capable of:

A.S1. independent thinking to solve simple design problems;

A.S2. taking responsibility for shaping the natural environment and cultural landscape, including the preservation of the heritage of the region, country and Europe.

Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

Learning outcomes presented above are verified as follows:

1. The Theory of Composition ends with an oral examination, on the date specified by the lecturer responsible for the course.

2. The condition to receive the course credit is participation in lectures and obtaining positive grades from all exercises.

3. There are two session exams. The second date is a resit.

4. The resit examination may be in a written, oral or written and oral form.

Formative assessment:

Reviews, including individual topics of exercises, checking the level of advancement of student's works presented in the forum of the group, joint discussion on presented solutions.

Assessment scale: 2.0; 3.0; 3.5; 4.0; 4.5; 5.0.

Summative assessment: the grade obtained during the examination summarizing the series of lectures

Assessment scale: 2.0; 3.0; 3.5; 4.0; 4.5; 5.0.

Programme content

Meeting 1

- lecturer: Prof. Sławomir Rosolski, Ph.D, D.Sc. Arch.

extra Introduction -

composition -general concept, definition

Lecture 1

- Theory of composition, lettering

1. Lettering - an outline of the history of writing

2. Lettering in advertising

3. Lettering in writing

Lecture 2

- Theory of composition, point and line

1. Point

2. Line

3. Plane

4. Line and points in the works of great creators

Meeting 2

- lecturer: Tomasz Jastrząb, Ph.D. Eng. Arch.

Lecture 3

- Geometric means of expressing space, point line plane

-continuation of the topic

1. Point

2. Line -the role of lines in shaping architecture

3. Line of sight in architecture

4. Harmonic lines

5. Linear disharmony

6. Grids

7. Emotion and energy of the line

8. Plane

9. Plane in architecture

10. Basic types of planes shaped in architecture design

11. Hierarchy of lines on the plane

12. The center of energy in the plane

13. Shaping the planes of the building

14. The plane of the ceiling

15. Analysis of selected projects and implementation

Lecture 4

-Geometric means of expressing space,

solid. Movement in space

1. Solid

2. Form and space

3. Interdependence of positive and negative elements

4. Movement in space- elements of spatial communication

5. Elements of circulation

6. Analysis of selected projects and implementation

Meeting 3

- lecturer: Mieczysław Kozaczko, Ph.D. Eng. Arch.

Lectures 5 and 6

- Space-time architectural composition

1. Composition according to Vitruvius

2. Composition in time and space

3. Construction of the perceptual apparatus according to Strzemiński, Bielawski and Russell

4. Composition zones according to Le Corbusier

5. Zipf's law in architectural composition. The principle of the adequacy of the size of the form to its structure

6. Rules for the legibility of the composition

Meeting 4

- lecturer: Tomasz Jastrząb,

Lecture 7

-Shaping architectural form

1. Form and its visual properties

2. Form - convention

3. Visual properties of the form
4. Shape
5. Regular and irregular forms
6. Convertability of the regular form
7. Formal geometric short-circuits
8. Articulation of form
9. Theories of Juliusz Żórawski
10. Relationships between form and background
11. Simplicity of form
12. The field of formal activity
13. Analysis of selected projects and implementation

Lecture 8

- The rules of spatial articulation, the principles of composition

1. Axiality
2. Symmetry
3. Hierarchy
4. Rhythms -repeat
5. Reference
6. Transformation / transformations /
7. The principles of composition • the law of hierarchy • the law of equality of meanings • the law of scoring • the law of unlimited continuation and penetration • the law of rhythm • the law of rhythm's mutation • the law of proportion • the law of variable dependencies / the law of multiple proportions / • the law of harmony • the law of dynamic

transformations

8. Analysis of selected projects and implementation

Meeting 5

- lecturer: Tomasz Jastrząb, Ph.D. Eng. Arch.

Lecture 9

- Proportions - rules and theories

1. Material proportions
2. Structural proportions
3. Systems of proportion
4. Theories of proportion
5. Man as measure and goal
6. Canons of human proportions
7. The golden ratio
8. Modulor by Le Corbusier
9. Golden rectangle
10. Regulation lines
11. Anthropomorphic proportions
12. Analysis of selected projects and implementation

Lecture 10

- Scale in Architecture -

the occurrence and lack of a proper scale in architecture

- scale dependence on size

- scale - references to the way of moving / man - car /

- scale - rating by comparison / comparison of opposites /

- falling out of scale, wrong scale

1. Categories of architectural scales • aesthetic scale • material scale • human scale • location scale
2. Scale of material
3. Scale related to man
4. Scale related to the situation
5. Choice of the scale variety
6. Change of scale
7. Monumental scale
8. Analysis of selected projects and implementation

Meeting 6

- lecturer: dr inż. arch. Tomasz Jastrząb

Lecture 11

- Space analysis

1. Creation of space, intuition, place, program • intrinsic space • connected space
• adjacent spaces • common (shared) space

2. Analysis of selected projects and implementation

Lecture 12

- Types of spatial organizations

1. Central organization

2. Linear organization

3. Radial organization

4. Organization of groups

5. Organization of grids / modular organization /

6. Types of space organization -dependence

7. Analysis of selected projects and implementation

Meeting 7

- lecturer: Prof. Sławomir Rosolski, Ph.D., D.Sc. Eng. Arch. and all teachers responsible for the course

Summary exercises

-final exhibition. Exam

Exercise topics

Exercise1.

Lettering

- choose or invent the typeface of the letters. Write any text. A3 format, graphic design

Graphic sign

- develop your own logotype consisting of the initials of your name and surname. A3 format, graphic design.

Exercise 2. Introduce the composition "Point balanced by lines", A3 format, graphic design.

Exercise 3. Make the transformations of the grid (e.g. with a side of 10 x 10 cm, 100 squares) by elimination of primary dependencies between the elements of the output system. During the transformation it may come to:

- fragmentation of the structure

- grids passing

- falling out of elements

- merging of elements

- cutting of the system/ layout

Illustrate the various stages of a composition (grid) transformation. Present the final version in the third dimension, distinguishing forms that contrast with the surroundings in terms of dimensions, shape and location

(principle of hierarchy).

Form of work: drawings and mock-up, A3 format.

Exercise 4

Tip 1:

present the relationship between form and background based on any composition (urban space, interior, architectural facility, sculpture in space, etc.). In your work, illustrate the following principles:

-the background is an integral part of the form

-a change in the background may change the form

- the outline helps to cut the form from the background

- handling the form is about setting it against an appropriate background

A3 format, graphic design.

Tip 2:

subjective changes of an objectively unchanging form- make a change in the nature of any existing or arranged spatial situation by changing the relationship between the form and the background.

A3 format, graphic design.

Exercise 5

Perform an analysis of composition of the facade of a historical building or its fragment (eg Old Market Square, Wilda, Jeżyce

-Poznań). Highlight the axes of the composition, divisions, rhythms,

proportions of elements dependence, the scale of the object in relation to human. Carry out the

transposition of the composition by changing the size of elements, mutating rhythms, merging, divisions.

Illustrate the different stages of the exercise:

-registration of the existing state

- analysis

-transposition.

The phased concept should be presented in A3 format.

Form of work: drawings, relief.

Exercise 6

Design two compositions of three connected cubes of different characteristics.

The first composition - coherent, symmetrical, static.

The second composition - free, asymmetrical, dynamic.

The structure of the cubes can be any. It is advisable to combine solids and openwork solids. Any position in relation to the base. Cubes can be of various sizes (maximum 10x10x10 cm). The concept should be presented in A3 format in the form of two independent mock-ups. Form of work: sketches, mockup. A3 format.

Exercise 7

Invisible Cities

- free interpretation of the topic Types of space organization -

Illustration of a selected story from the book "Invisible Cities" by Italo Calvino.

A3 format, graphic design.

Course topics

Groups of issues

Issue 1. Geometric means of shaping space - point, line (harmonic lines and disharmonics, grids, energy of lines, line of sight in architecture), plane (overhanging planes, wall planes and foundations), solid (shape, texture).

Issue 2. Space analysis - intra-space, connected, adjacent, shared space.

Issue 3. Principles of space articulation - axiality, symmetry, hierarchy, rhythm, transformations, dominants and accents.

Issue 4. Scale and proportions. Categories of architectural scales: aesthetic scale, material scale, human scale, location scale, choice of scale variety, change of scale. Proportion systems: (proportions material, structural) golden ratio, styles in architecture, classical orders, Renaissance theories, regulatory lines, anthropomorphic proportions, modulator.

Issue 5. Basic laws of composition in the past and today, evolution of views. Law hierarchy / law of equivalence of meanings, law of scoring / law of unlimited continuation i interpenetration, the law of rhythm/the law of rhythm mutation, the law of proportion/the law of variable relationships and many others

proportions, law of harmony/law of dynamic transformations, law of tolerance.

Issue 6. Relationships between form and background, principles of good continuity and contrast, relationship of form

on the role, size and quality of the parts. Formal guidelines, simplicity and complexity of form, visual properties

forms, finiteness of forms, field of formal action.

Issue 7. Free and coherent, strong and weak forms. Transformability of forms - transformability through dimensioning, by addition and by subtraction.

Issue 8. Ways of organizing space - regular and irregular, radial, centralized, linear, modular organizations.

Issue 9. Elements of space circulation - communication.

Issue 10. Theory of vision, perception of space, space in architectural interiors, optical illusions.

Issue 11. Theories of space composition and models of user behavior. Architectural space and existential space. The nature of spatial systems and their impact on behavior recipients.

Issue 12. Contexts - architectural, urban, landscape.

Issue 13. Theories of space composition in the ideas of famous architects, symbolism of space contemporary trends in interior design.

Issue 14. Theories of space composition and contemporary art / painting, sculpture and others fields, dependencies and interpenetration of trends.

Issue 15. Digitally generated space in architectural interiors - development IT techniques and their impact on the way space is shaped.

Summary

Teaching methods

1. The training cycle includes 7 meetings, during each of which two lectures are presented.
2. Lectures are in the form of multimedia presentations.
3. The structure and topics of lectures, programme content and a list of basic literature are available on the eLearning Moodle PUT platform available to logged- in users.

EXERCISES:

1. The training cycle includes 7 lessons (2x1.5h).
2. During each class, students present graphic or spatial interpretations of a topic.

Bibliography

Basic:

- Arnheim Rudolf, Dynamika formy architektonicznej, Wydawnictwo Officina, 2016
- Arnheim Rudolf, Sztuka i percepcja wizualna, Wydawnictwo Officina, 2004
- Basista Andrzej, Kompozycja dzieła architektury, Wydawnictwo Universitas, Kraków 2006
- Ching Francis, Architecture: form, space, order, Wydawnictwo Van Nostrand Reinhold Nowy Jork 1997
- Ciechanowski Kazimierz, Podstawy kompozycji architektonicznej, Wydawnictwo Politechniki Wrocławskiej, Wrocław 1974
- Kandiński Wasyl, Punkt i linia a płaszczyzna, Państwowy Instytut Wydawniczy, Warszawa 1986 • Kandinsky Vasily, Point and Line to Plane, Dover Publications, New York 1979
- Poulin Richard, Design School: Layout: A Practical Guide for Students and Designers, Rockport Publishers, Beverly 2018
- Poulin Richard, Design School: Type: A Practical Guide for Students and Designers, Rockport Publishers, Beverly 2017
- Sumień Tadeusz, Kreacja i percepcja architektury miasta, Wydawnictwo Instytut Gospodarki Przestrzennej i Komunalnej, Warszawa 1989
- Sumień Tadeusz, Forma miasta. Kontekst i anatomia, Wydawnictwo Instytut Gospodarki Przestrzennej i Komunalnej, Warszawa 1992
- Szparkowski Zygmunt, Zasady kształtowania przestrzeni i formy architektonicznej, Oficyna Wydawnicza Politechniki Warszawskiej, Warszawa
- Strzebiński Władysław, Teoria widzenia, Wydawnictwo Literackie, Kraków 1974 • Szmidt Bolesław, Ład przestrzeni, Państwowy Instytut Wydawniczy, Warszawa 1981
- Witruwiusz, O architekturze ksiąg dziesięć, Wydawnictwo Prószyński i S-ka, Warszawa 1999 • Wojeński Jan, Technika literatury, Państwowe Wydawnictwo Ekonomiczne, Warszawa 1969
- Żórawski Juliusz, O budowie formy architektonicznej, Wydawnictwo Arkady, Warszawa 1973
- Żórawski Juliusz, Siatka prostych, Wydawnictwo Politechniki Krakowskiej, Kraków 2012

Additional:

- 135 Basista Andrzej, Opowieści budynków. Architektura czterech kultur, Państwowe Wydawnictwo Naukowe, Warszawa -Kraków 1995
- Fikus Marian, Przestrzeń w autorskich zapisach graficznych, Wydawnictwo Politechniki Poznańskiej, Poznań 1991
- Jencks Charles, Ruch nowoczesny w architekturze, Wydawnictwa Artystyczne i Filmowe , Warszawa, 1987
- Jodidio Philip, Nowe formy. Architektura lat dziewięćdziesiątych XX wieku, Wydawnictwo Muza s.a., Warszawa 1998
- Latour Stanisław, Szymski Adam, Rozwój współczesnej myśli architektonicznej, Państwowe Wydawnictwo Naukowe, Warszawa 1985
- Norberg- Schulz Christian, Znaczenie w architekturze Zachodu, Wydawnictwo Murator, Warszawa, 1999
- Pevsner Nikolaus, Pionierzy współczesności, Wydawnictwa Artystyczne i Filmowe Warszawa 1978
- Tatarkiewicz Władysław, Dzieje sześciu pojęć, Państwowe Wydawnictwo Naukowe, Warszawa 1982
- Tatarkiewicz Władysław, Historia estetyki, tom I –III, Wydawnictwo Naukowe PWN, Warszawa 2015
- Zumthor Peter, Myślenie architekturą, Wydawnictwo Karakter, Kraków 2010

Breakdown of average student's workload

	Hours	ECTS
Total workload	100	4,00
Classes requiring direct contact with the teacher	60	2,00
Student's own work (literature studies, preparation for laboratory classes/ tutorials, preparation for tests/exam, project preparation)	40	2,00