# General Information:

**Curriculum:** Architecture

**Course: Complex Design 2.**

**Code:** EPM319EN

**Semester:** 2

**Credits:** 11

**Classes per week:** 0/0/10

**Evaluation:** signature with grade (f)

**Prerequisites:** Complex Building Structures

 Complex Design 1.

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## Course description

## The course requires master's level students to continue a task with an architectural scale, architectural and structural focus, continuing their studies, and using the acquired competencies. Within the framework of the subject, the student prepares a semester assignment, which proves that he/she can apply the acquired knowledge independently, has creative design skills and problem-solving skills, and is able to choose appropriate ways and methods to answer professional questions and draw correct conclusions. The design of a well-functioning, high architectural and technical quality contemporary building is an essential requirement. Within the framework of the semester task, the student gives coherent answers to current topics, non-conventional architectural situations, and social problems, from integration into the environment to structural solutions, especially regarding innovation, sustainability, economic solidarity, and ecological thinking.

## Course outcome

## The course's primary focus is on applying the knowledge acquired during the training in a complex way, especially the conceptual design approach, integration into the built environment, logical, clean switching of functions, finding the appropriate function-form-structure unit, shaping representative spaces for demanding architecture. The course aims to demonstrate the student's ability to solve independent architectural tasks in the field of architectural activities through his/her knowledge of science, technology, and art, as well as economic and human skills, with responsibility and commitment, awareness of the social and environmental impacts of architecture.

## Course outline

The semester assignment within the course is grouped around Architecture and Structure, so this semester deals specifically with the building scale, building architecture, structural and other problems in the field. The aim is to create a well-thought-out task with a high-quality graphic presentation at the permission plan level. Of course, in connection with the assignment, the urban architectural links, the examination of the context, the integration into the environment, and the well-thought-out design of the interiors cannot be circumvented either. The main topic focus of the semester assignment is:

## - Architecture and structure (theme focus ratio: a = 40%, b = 10%, c = 10%, d = 30%, e = 10%) Topic focus: a.) architecture, b.) interior design, c.) urban , d.) structure, e.) heritage protection, society, economy, ecology, sustainability, etc. The detailed syllabus, the detailed system of requirements, and the course information will be uploaded to the file-sharing interface of the relevant Teams team.

## Assessment 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.

Method for monitoring attendance (e.g.: attendance sheet / online test/ register, etc.)

Attendance is required for all classes and will impact the grade (max. 10%). Unexcused absences will adversely affect the grade, and in case of absence from more than 15% of the total number of lessons (it is max. 2 lessons) will be grounds for failing the class. To be initially and stay in class until the lesson's scheduled end is required, a delay of more than 20 minutes will be counted as an absence. In the case of an illness or family emergency, the student must present a valid excuse, such as a doctor's note.

The conditions for successfully completing the semester are:

* Active class attendance.
* Preparation and presentation of tasks on time.
* Compliance with formal and formal requirements.

If these are met, the signature will is given.

The signature only certifies the above, the assessment of the professional content is done with a grade of 5 (1,2,3,4,5). So, you may have fulfilled all your obligations and therefore receive a signature, but you will receive an unsatisfactory grade due to the lack of professional content. If this happens at the end of the semester (week 15), you may attempt to improve your grade 1 time during the exam period.

Week 15 timetable date - end of semester or end of semester remediation make-up

-if passed, signature and mid-semester mark! (by 12.00 noon on Friday of week 15)

Mid-semester grades are 5 grades (1,2,3,4,5)

-if not passed then NEPTUN recording (by Friday 15th week 12.00) - signature denied then->

-or if signature is given but grade is unsatisfactory NEPTUN recording (by 12.00 noon Friday of the 15th week) then ->

week 16-17 exam period correction make-up - all exams 1x

-if passed then signature and midterm grade!

Midterm grade is 5 grades (1,2,3,4,5)

-if you pass and have a signature, but the midterm grade is unsatisfactory (1) then you can retake the course in the next academic year!

-if not passed - signature denied - NEPTUN recording you can retake the course in the next academic year

In the Master's degree program in Architecture curriculum, the credit value assigned to the Complex Design 2 is 11, which can be obtained by fulfilling the subject's semester requirements (study, mid-term presentation, successful end-of-term presentation, and final presentation).

The course ends with a semester grade. The semester closes at week 15, and week 16 is the rereview. The practical sessions' presence means presenting the actual state of the work recorded in the schedule! The tutors keep an attendance/consultation sheet with the entries. During the semester, the student reports on his / her work twice in a visual and verbal presentation to the subject instructors' professional jury.

The evaluation is based on the points system issued. To obtain a signature, the student must meet the following milestones:

1. study and concept – week 4- are accepted or, if it is not completed on time or is not acceptable, it is accepted at the time of additional submission (with a delay of up to two weeks)

2. the mid-term presentation - week 8- is accepted if the score corresponding to 2 (sufficient) grade is reached. If the student does not achieve the score corresponding to 2 (satisfactory) grade in the mid-term presentation (less than 50% based on the jury's evaluation), then the presentation can be corrected once. (The work not presented at the mid-term exhibition for some reason - after justifying the absence - will have to be presented in the first class after the presentation!)

3. The project's presentation at the end of the semester takes place on week 14, where the students show that the content and drawings are delivered in the semester. The presentation of the project takes place with posters in front of the instructors. The plans' content is evaluated at the presentation of the plans. There is another chance to acquire the final grade in 2 weeks in case of not fulfilling the minimum requirements.

4. the final project presentation at the end of the semester is on week 16. Completion of the project presentation at the end of the semester is a condition for obtaining the signature, which can then be obtained here for the last time.

- if the total score does not reach 50%, the semester grade is 1, (fail/unsatisfactory), the course has not been completed, it is to be re-enrolled in the next semester.

- if the semester grade is 2-5, the course is considered complete

**Evaluation**

Test on building structures (10 p): 5-10 passed / 0-4 failed (to be revised) 10 p

*The min. requirement for writing the test is the submission of 5\*10 hand drawn details on A4 sheets. The details relevant to the lecture’s topic will be posted on teams.*

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| **Task** | **points** | **Percentage of the final** |
| ***1. Phase*** |  ***max 15 p*** |  ***15 %*** |
| *1.1 Installation mock-up* |  *max 5 p* |  *5 %* |
| *1.2 Installation and concept drawings on posters* |  *max 10 p* |  *10 %* |
| ***2. Phase*** |  ***max 75 p*** |  ***75 %*** |
|  *2.1 Mass and structural model* |  *max 5 p* |  *5 %* |
|  *2.2 Building structure and sustainability task* |  *max 10 p* |  *10 %* |
|  *2.3 Final model* |  *max 10 p* |  *10 %* |
|  *2.2 Architectural posters* |  *max 50 p* |  *50 %* |

Grading Scale:

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| --- | --- | --- | --- | --- | --- |
| Numeric Grade: | 5 | 4 | 3 | 2 | 1 |
|  | A, excellent | B, good | C, average | D, satisfactory | F, Fail |
| Evaluation in points: | 85%-100% | 70%-84% | 55%-69% | 40%-54% | 0-39% |

**Textual evaluation of grades**

**1 (unsatisfactory)** - work that does not meet the formal and content requirements, work of unacceptable quality carried out with a completely flawed concept

**2 (satisfactory)** - acceptable work that meets the formal and content requirements, but which has a bad or weak concept, does not contain coherent functional-formal-structural solutions, architecturally low-quality work

**3 (average)** - acceptable work that meets the formal and content requirements, which has a fair concept, but shows problems in its functional-formal-structural solutions, not architecturally very exciting, proper quality work

**4 (good)** - work that meets the requirements of form and content to a large extent, which has a good concept, a functionally functioning building that uses coherent, functional solutions in a form-structure sense, architecturally interesting, well-processed, high-quality work

**5 (excellent)** - work that meets the requirements of form and content to a large extent, which has an exciting concept, a functionally well-functioning building that uses coherent, mature solutions in terms of form and structure, hides architectural excitement, and professionally processed, high-quality work

## Methodology

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

Method:

1. continuous consultation in timetable according to the curriculum announced in the detailed subject program

2. independent work according to the semester curriculum announced in the detailed course program

3. independent homework

4. independent research, data collection, analysis

5. Independent consultation with external, independent experts

## References

* + [1] [E.Neufert, P. Neufert (2002). Neufert Architects' Data](http://joom.ag/0Lhb)
	+ [2] Bert Bielefeld: Spaces in Architecture (Birkhäuser) 2018
	+ [3] Bert Bielefeld: Architectural Design Basics (Birkhäuser)
	+ [4] Julia McMorrough (2014). Drawing for Architects: How to Explore Concepts, Define Elements, and Create Effective Built Design through Illustration
	+ [5] [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)
	+ Andrea Deplazes (Ed.): Constructing architecture - Materials Processes Structures, 2013. Birkhauser, Basel

# Detailed subject program and requirements

## Methodology and criteria:

The students' problem-processing method models the real planning process (complex problem approach = parallel examination of function-structure-form), but also maps the academic nature of university-level education (research-analytical work).

The aim is to strengthen teamwork and reap the benefits, mainly so that the individual's responsibility - his / her plan - does not turn into team responsibility. Collaboration, therefore, means a joint discussion of independent work for phases. During the semester, according to the complexity, the student plans are consulted together by the design and building structure consultants.

However, due to the peculiarities of complex design and the interdependence of design processes, individual specialties appear in the design phases with different weights. In phase "1", planning consultations play a more significant role, as here the analysis, research and concept development play the main role. In the phase 2, the consultation on building design and building structure is not separated. Still, it takes place together, since here, in addition to concept creation, the structural foundations and logic of the building must also be invented. At the final, the emphasis shifts towards structural solutions and details, but of course, the design consultations also remain, the architectural fine-tuning of the building takes place.

During the processing of the design task, students have to go through the following three phases:

**phase "1" - research and conceptualization phase**

In the first half of the semester, in practical classes supported by theoretical lessons and lectures, students analyze the urban-scale, types of green spaces and their spatial relationships. In the framework of experimental design and modelling, they will construct a modern urban fabric, the empirical conclusion of which will be the basis for the development of the design concept. By the end of the conceptual design phase, the analysis of the environmental conditions (location, spatial structure, built environment, density - built-up area analysis, linear axes, green space, parking), the interpretation of the conditions and enhancements of the urban potentials, the massing, the definition of the main directions, the main groups of functions and the layout must be completed. The design process should also be presented through various diagrams, drawings, working model photographs. Documenting the creative and ecological thinking process is essential for successful communication.

**phase "2" - design phase**

The second half of the semester is the time to finetune through an iterative process the plan. By the end of the semester, the building is finalized, with all the complexities and constraints given, closely linked to the external connections. M:1:100 scale drawings, site plan showing the installation, perspective views and a model are included. Any missing part of the assignment will result in failure of the assignment and will therefore not be assessed and evaluated, the assignment will not be considered complete. The assignment also includes the presentation of revised installation drawings and mock-ups, with a visual and clearly understandable demonstration of the process.

Each phase should be discussed at team level (students + the consultants) during the lesson:

- discussion in groups - presentation and discussion of the work done at home, unveiling unrecognized problems, analyzing the answers to the revealed problems

- independent reflection on the task

- team discussion - presenting and discussing the work done in class, unveiling unrecognized problems, analyzing the answers to the revealed problems

At the beginning of the planning consultation, the students will outline the work done since last week,

In the middle of the planning consultation, planning and building construction consultation and independent work occur

At the end of the planning consultation, students will present the work done in class

## Tasks and their requirements

**minimum formal and informal requirements for phase 1**

To be submitted:

The project is to be prepared in poster form ready for Exhibition I (week 7)

Posters must be carefully prepared, aesthetically pleasing and architecturally mature. Posters are to be prepared according to the template provided. Posters should be mounted on a 3 mm foam board (sprayed with adhesive spray!!!).

The preliminary plan submission / conceptual in 1:200

On paper: see the published guides and samples, and on the basis of the published template

On digital basis on MS TEAMS interface: the tabs must also be uploaded digitally + a 9:16 digital pdf presentation.

Minimum content:

A) Installation plan (individual assignment - min.1 poster)

- maps, figure-ground plans, neighborhood site plans

- Development plan (site plan, M 1:1000, M 1:500 scale)

- spatial axonometric diagram (showing the entire development area)

A site plan drawn in scale and in a sophisticated manner.

B) Architectural concept plan (individual task - min 1 poster)

- functional schematic diagrams

- floor plans M:200

- sections M=1:200,

- visualizations

C) Installation mock-up (individual task)

- With the planned building and surrounding buildings M :500

An accurately and visually detailed mock-up depicting the surrounding area.

**formal requirements of the phase 2**

To be submitted:

The semester plan must be in poster form for Exhibition (week 15) and the structural work details must be uploaded to the Teams in the assigned folder (week 14).

The posters must be carefully prepared, aesthetically pleasing and architecturally mature. Posters should be made according to the guidelines provided, using the header and template provided (70x100cm). The posters should be mounted on a 3 mm foam board (sprayed with adhesive spray).

The digital material for Exhibition II must also be uploaded to the TEAMS with the attachment of editable digital material for all the visual and textual parts of the presentation (concept, short, concise description, drawing parts, visualisation, posters)

Content requirements:

A) Final master plan (individual assignment - 1 poster)

- maps, figure-ground plans, site plans of the urban area

- Master plan with site and surrounding areas (site plan, scale M 1:500)

- spatial axonometric diagram (showing the entire development area)

B) Architectural plan (individual task – 2 posters of building plans and immediate surroundings)

- Cover image: the one that best defines the atmosphere of the development,

the most representative image of the development. This is shown in the initial table, large

 It should be placed in a large size, visible from a distance.

- Concept, analysis, schematic diagrams, info-graphics a

- Floor plans at M1:100 scale of detail

- Min 3 Sections with views of existing buildings M1:100

- Min 2 typical facades of the proposed building, showing the adjacent streetscape

- Exterior views from human perspective

- Detailed visual plan of a representative interior space

1:100 scale technical drawings drawn to scale

Based on examples from the sample collection and quality

C) Mass and structural mock-up (individual task)

- the volume of the proposed building and its structural system M 1:200

A well-designed and visually appealing mock-up showing the skeletal system of the building

Based on the examples in the model collection and quality

D) Final model (individual task)

- Model of the designed building M 1:200

An accurate and visually detailed model showing the building façade

Based on examples from the model collection

E) Building structure and sustainability plan (individual task - posters digitally uploaded to Teams)

- structural axonometry showing the building frame and slab structure

- 2 typical sections of main walls, showing the materials and structures used, with detailed description and labelling, and showing the interior and building services systems. M 1:20

- Schematic drawing of building operation (building services engineering) and conceptual design

- Sustainability concept of building operation. conceptual design / installation digital presentation, boards (M = 1: 200) and model (M = 1: 500)

The committee will evaluate in the submitted work:

a.) The architectural quality and correctness of the installation plan.

b.) The processing, appearance, and graphic quality of the sketch design presentation.

The evaluation is based on the points system published on the topic. Work not presented at the defense for some reason, and after justifying the absence, the mid-term must be represented the next class after the defense! Works with a “non-compliant” qualification that did not reach 40%, in the defense, can be revised once, in the upcoming class after the presentation!

- concept, architectural value (10 points)

- analysis and setting (10 points)

- planning program, functional operation (10 points)

- structure, use of materials (10 points)

- mechanical engineering, sustainability, ecological aspects (10 points)

The critical Consultation (Milestone) The plans' content is evaluated at the presentation, the finished boards are needed for the final, and the final visual plans do not have to be presented yet, but the future graphic presentation, the expected layout and editing of the boards' form should be presented! (This milestone takes place in a compliant / non-compliant system. Non-compliant plans will be re-presented at the date specified.)

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| Weekly schedule |
| Week 1 | Monday 9.30-18.00 |
|  | Presentation of the semester task and syllabus, site visit |
| 02.06 | PHASE „A” | PHASE „A” |

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| Week 2 | Monday 9.30-18.00 |
| lecture | **Planning** 11:15 -12:45 TAM | **Building Structures** 9:30 -11:00 PP |
| topic | The evolution of office types /ZESZ  | Foundations and plinth PP |
| literature | Published lecture material |
| practice | CONSULTATION AND INDIVIDUAL WORK |
| February 13.  | PHASE „1” |

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| Week 3 | Monday 9.30-18.00 |
| lecture | **Planning** 11:15 -12:45 TAM | **Building Structures** 9:30 -11:00 PP |
| topic | Building in Historical context /ZP | water proofing PP |
| literature | Published lecture material |
| practice | CONSULTATION AND INDIVIDUAL WORK |
| February 20. | PHASE „1” |

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| Week 4 | Monday 9.30-18.00 |
| lecture | **Planning** 11:15 -12:45 TAM | **Building Structures** 9:30 -11:00 PP |
| topic | Office structures / ZESZ | Structural systems and loadbearing structures |
| literature | Published lecture material |
| practice | Presentation of the program and the basic concept + consultation |
| February 27. | PHASE „1” |

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| Week 5 | Monday 9.30-18.00 |
| lecture | **Planning** 11:15 -12:45 | **Building Structures** 9:30 -11:00 |
| topic | Architectural context /ZP | Slabs and roof structures |
| literature | Published lecture material |
| practice | **Submission of the 1:500 mock-up (with surrounding)**  CONSULTATION AND INDIVIDUAL WORK |
| March 6.  | PHASE „1” |

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| Week 6 | Monday 9.30-18.00 |
| lecture | **Planning** 11:15 -12:45 | **Building Structures** 9:30 -11:00 |
| topic | Case studies / Roofs ZP | Flat roofs, green roofs, terraces |
| literature | Published lecture material |
| practice | **CRITICAL CONSULTATION (1. Milestone)** |
| March 13.  | PHASE „1” |

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| Week 7 | Monday 9.30-18.00 |
| lecture | **-** | **-** |
| practice | **PRESENTATION in exhibition form**  |
| March 20 | PHASE „1” |

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| Week 8 | Monday 9.30-18.00 |
| lecture | **Planning** 11:15 -12:45  | **Building Structures** 9:30 -11:00 |
| topic | Case studies / Facades ZP | Facades, Claddings PP |
| literature | Published lecture material |
| practice | Presentation of the program and the basic concept + consultation |
| March 27. | PHASE „2” |
| Week 9 | SPRING BREAK |
| April 3 | INDIVIDUAL WORK |
| Week 10 | EASTER MONDAY |
| April 17 | INDIVIDUAL WORK |

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| Week 11 | Monday 9.30-18.00 |
| lecture | **Planning** 11:15 -12:45 | **Building Structures** 9:30 -11:00 |
| topic | Interior design in office buildings ZESZ | TEST on Building structures 10p |
| literature | Published lecture material |
| practice | CONSULTATION AND INDIVIDUAL WORK |
| April 17 | PHASE „2” |

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| Week 12 | Monday 9.30-18.00 |
| lecture | **CASE STUDIES (Planning/Structure)** 9:30 -11:00  |
| topic | Coherence in architecture ZESZ |
| literature | Published lecture material |
| practice | CONSULTATION AND INDIVIDUAL WORK |
| April 24 | PHASE „2” |

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| Week 13 | OFFICIAL RESTING DAY |
| April 25 | INDIVIDUAL WORK |

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| Week 14 | Monday 9.30-18.00 |
| lecture | **CASE STUDIES (Planning/Structure)** 9:30 -11:00 |
| topic | Coherence in architecture and architectural presentation ZESZ |
| literature | Published lecture material |
| practice | **CRITICAL CONSULTATION 2** |
| May 08.  | PHASE „2” |

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| **Week 15** | Monday 9.30-18.00 |
|  | **Semester presentation – EXHIBITION 2** |
| **May 15.**  | PHASE „2” |

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| **Week 16** | Monday 9.30-18.00 |
|  | **Revision of the semester presentations**  |
| **May 23** | **SEMESTER GRADE** |

Pécs, 2022.01.30.

 dr. ZOLTÁN, Erzsébet Szeréna

 associate professor, supervisor