COURSE SYLLABUS AND COURSE REQUIREMENTS
ACADEMIC YEAR 2024-2025 SEMESTER I.

Course title	*Technical Drawing 1.*
Course Code	*MSB276ANEP*
Hours/Week: le/pr/lab	2/2/0
Credits	4
Degree Programme	Civil Engineering
Study Mode	*full-time training*
Requirements	mid-semester grade
Teaching Period	Practice: Tuesday, 09:30-11:00, Every week, Lecture: Tuesday, 11:15-12:45
Prerequisites	-
Department(s)	Institute of Smart Technology and Engineering
Course Director	Dr. Géza Cs.Nagy
Teaching Staff	*Gyula Ferenc Vasvári*
Hours/Week: le/pr/lab	*2/2/0*

COURSE 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, imagery and intersection of solids and polyhedrons.
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.

SYLLABUS

1. GOALS AND OBJECTIVES

The course will focus on engineering 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 create technical drawings based on spatial objects. Furthermore, the course aims to hone students' analytical skills, enabling them to visualize and interpret three-dimensional structures from two-dimensional representations effortlessly. Practice tasks will further solidify these skills, ensuring that students are well-equipped to build constructions and components.

2. COURSE CONTENT

Students are required to complete 6 drawing tasks, 3 midterm tasks(homework) and 2 written tests. Students have to participate on classes. They learn the theoretical bases on lecture and create drawings on the practical lessons. The participation on the lectures is inevitable to pass the course. The drawings created on the practical lessons are part of the homework, so the students work on the practical lesson will be also scored. The course is based on lectures and practical lessons. The students have to solve tasks on the practice and on their own.

	TOPICS
LECTURE	1. *Introduction. Projection types.* 2. *Monge-system, Image of spatial elements.* 3. *Parallelism, perpendicularity in the Monge-system. Position of lines, polygons. Image of solids.* 4. *Axonometric drawing. Types of Axonometry.* 5. *Image plane transformation. New image plane in monge system.* 6. *Transformation* 7. *Cube, poligon based prisms, pyramid.* 8. *Cylinder, cone, sphere*

PRACTICE

9. *Solid's intersection without transformation. Intersection of solids*

1. *1st Drawing Task: Projections*
2. *2nd Drawing Task: Axonometric views*
3. *3rd Drawing Task: Transformation*
4. *4th Drawing Task: Flat line shapes*
5. *5th Drawing Task: Cylindrical and conic shapes*
6. *6th Drawing Task: Architectural drawing in Monge*
7. *1st Midterm Task: Standard projections and axonomteric projections*
8. *2nd Midterm Task: Transformation*
9. *3rd Midterm Task: Intersection, Architectural drawing in Monge*
10. *1st Written Test: Geometry of space, Image of spatial elements, transformation*
11. *2nd Written Test: Intersections, Drawing in Monge.*

DETAILED SYLLABUS AND COURSE SCHEDULE

ACADEMIC HOLIDAYS INCLUDED

LECTURE

week	**Topic**	**Compulsory reading; page number (from … to …)**	**Required tasks (assignments, tests, etc.)**	**Completion date, due date**
1.	Introduction. Projection types. Planes in Monge-system. Piercing point and planes' intersection.	[1.] page 11- 32		
2.	Monge-system, Image of spatial elements.	[1.] page 33-55		
3.	Parallelism, perpendicularity in the Monge-system. Position of lines, polygons. Image of solids.	[1.] page 56- 79		
4.	Axonometric drawing. Types of Axonometry			
5.	Axonometric drawing. Types of Axonometry. *Consultation about 1st midterm task*		1st midterm task	To be submitted at Lecture 7.
6.	Image plane transformation. New image plane in monge system.	[1.] page 112- 126		
7.	Transformation. *Consultation about 2nd midterm task*	[1.] page 127- 158	2nd midterm task	To be submitted at Lecture 10.
8.	1st drawing test(written test)		1st drawing test(written test)	
9.	Holiday - Fall Break			
10.	Intersections of solids. Cube, poligon based prisms, pyramid			
11.	Intersections of solids. Cube, poligon based prisms, pyramid			
12.	*Consultation about 3rd midterm task*		3rd midterm task	To be submitted at Lecture 13.
13.	2nd drawing test(written test)		2nddrawing test(written test)	
14.	Retake tests – Semester closing and results			

PRACTICE

week	**Topic**	**Compulsory reading; page number (from … to …)**	**Required tasks (assignments, tests, etc.)**	**Completion date, due date**
1.	Introduction. Projection types. Spatial element in Monge-system. Parallelism, perpendicularity in the Monge-system. Position of lines, polygons. Image of solids.	[2.] page 8- 13		
2.	Spatial element in Monge-system.	[2.] page 13- 18		
3.	Spatial elements, polygons and solids in Monge-system.	[2.] page 8-18	DrawingTask 1.	
4.	Spatial elements in Axonometry.	[2.] page 3- 8		
5.	Axonometric drawing		DrawingTask 2.	
6.	Transformational geometry			
7.	Transformation drawing		DrawingTask 3.	
8.	Flat line shapes	[2.] page 18- 20		
9.	Holiday - Fall Break			
10.	Intersection of solids.		DrawingTask 4.	
11.	Intersection of flat line shapes			
12.	Cylindrical and conical shapes in Monge system		DrawingTask 5.	
13.	Intersection of cilindrical and conical shapes			
14.	Architectural drawing in Monge and Axonometry.		DrawingTask 6.	

3. ASSESSMENT AND EVALUATION

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.

Attending is required all classes, and will impact the grade (max. 10%). Unexcused absences will adversely affect the grade, and in case of absence from more than 30% of the total number of lesson will be grounds for failing the class. To be in class at the beginning time and stay until the scheduled end of the lesson is required, tardiness 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.

Method for monitoring attendance

attendance sheet

ASSESSMENT

Course resulting in mid-term grade *(PTE TVSz 40§(3))*

Mid-term assessments, performance evaluation and their ratio in the final grade

Type	Assessment	Ratio in the final grade
1. 1st Drawing Task	*5p*	*5%*
2. 2nd Drawing Task	*5p*	*5%*
3. 3rd Drawing Task	*5p*	*5%*
4. 4th Drawing Task	*5p*	*5%*
5. 5th Drawing Task	*5p*	*5%*
6. 6th Drawing Task	*5p*	*5%*
7. 1st Midterm Task(Homework)	*10p*	*10%*
8. 2nd Midterm Task(Homework)	*10p*	*10%*
9. 3rd Midterm Task(Homework)	*10p*	*10%*
10. 1st Written Test	*20p*	*20%*
11. 2nd Written Test	*20p*	*20%*

Please note that attendance will adversely affect one's grade, both in direct grade reduction and in missing work in the development of a project.

Opportunity and procedure for re-takes (PTE TVSz 47§(4))

The specific regulations for improving grades and resitting tests must be read and applied according to the general Code of Studies and Examinations. E.g.: all tests and assessment tasks can be repeated/improved at least once every semester, and the tests and home assignments can be repeated/improved at least once in the first two weeks of the examination period.

If the student fulfills every requirement in the study period, it ends with a grade. The student who doesn't fulfill every requirement in the study period their signature will be denied.

Grade calculation as a percentage

based on the aggregate performance according to the following table

Course grade	Performance in %
excellent (5)	85 % …
good (4)	70 % ... 85 %
satisfactory (3)	55 % ... 70 %
pass (2)	40 % ... 55 %
fail (1)	below 40 %

The lower limit given at each grade belongs to that grade.

4. SPECIFIED LITERATURE

COMPULSORY READING AND AVAILABILITY

[1.] A.T. Chahly; Descriptive geometry
[2.] Dávid Csonka, Gyula Vasvári; Mechanical design process

RECOMMENDED LITERATURE AND AVAILABILITY

[1.] Minor Clyde Hawk, Schaum's Outline of Theory and Problems of Descriptive Geometry
[2.] Francis D. K. Ching, Architecture – Form, Space and Order
[3.] Julia McMorrough, Drawing for Architects