STUDY MODULE DESCRIPTION FORM

Name of the module/subject **(-)**		Code **1010134211010104918**
Field of study **Environmental Engineering Extramural First-**	Profile of study (general academic, practical) **(brak)**	Year /Semester **1 / 1**
Elective path/specialty **-**	Subject offered in: **Polish**	Course (compulsory, elective) **obligatory**
Cycle of study: **First-cycle studies**	Form of study (full-time,part-time) **part-time**	
No. of hours Lecture: **24** Classes: **8** Laboratory: **-** Project/seminars: **14**		No. of credits **5**
Status of the course in the study program (Basic, major, other) **(brak)**	(university-wide, from another field) **(brak)**	
Education areas and fields of science and art		ECTS distribution (number and %)

Responsible for subject / lecturer:

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Responsible for subject / lecturer:

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Prerequisites in terms of knowledge, skills and social competencies:

1	**Knowledge**	Basic knowledge of the geometry at the advanced level in secondary school
2	**Skills**	The ability to gain information from the recommended sources and find a new one
3	**Social competencies**	Focus on increased knowledge in order to improved participate in professional life

Assumptions and objectives of the course:

1. Equipment student's ability to visualize the spatial formations of an engineering and geometrical methods to solve some of the problems in the field of enginering.
2. Obtaining the ability to execute the mechanical, building construction and building installation drawings.

Study outcomes and reference to the educational results for a field of study

Knowledge:

1. .The student knows the rules of the presentations of spatial formations on the plane using method projections into planes perpendicular - [[K_W01]]
2. The student knows the basic rules of mechanical, building construction and building installation drawings. - [-]

Skills:

1. Students are able to present on the plane data explicitly or created imaginary geometric figures - [[K_U01, K_U02]]
2. Students can construct sections and penetration lines of solid figures taken from practice of engineering - [[K_U02, K_U07]]
3. The student can make and read the basic mechanical, building construction and building installation drawings. - [[K_U14]]

Social competencies:

1. 1. The student is aware of the importance of technical drawing as a way to communicate relevant technical sciences - [[K_K07]
2. 2. Students are responsible for the accuracy of obtained results of their work and are able to provide interpretation - [[K_K02]]

Assessment methods of study outcomes

Written tests and appreciation of self-made drawings.

Criteria for evaluation:

91 -100 ?5? (A)

81 - 90 ?4,5? (B)

71 - 80 ?4,0? (C)

61 - 70 ?3,5? (D)

51 - 60 ?3,0) (E)

50 and below ?2? (F)

Course description

Projections point, straight line and plane into three mutually perpendicular projection planes. The rules for construct sections and penetration lines of solid figures. Size and graphical form of drawing sheets. 4. Line work ? line type, thickness and application on engineering drawings. Cross sections . General rules of dimensioning. Drawing of uncoupled and coupled connections. Complex drawing. Conventional and simplified graphical symbols used in building construction drawings and building installation drawings.

Basic bibliography:

1. W. Jankowski, Geometria wykreślna, Wydawnictwo Politechniki Poznańskiej, 1999.

2. J. Korczak, Cz. Prędki, Przekroje i rozwinięcia powierzchni walcowych i stożkowych, Wydawnictwo Politechniki Poznańskiej, 2007

3. T. Bogacz, T. Romaszkiewicz-Białas, 13 Wykładów z geometrii wykreślnej,Oficyna Wydawnicza Politechniki Wrocławskiej,2006

4. T. Dobrzański, Rysunek techniczny maszynowy, WNT Warszawa

5. . E. Miśniakiewicz, W. Skowroński, Rysunek techniczny budowlany, Arkady, Warszawa 2007

Additional bibliography:

Result of average student's workload

Activity	Time (working hours)
1. Participation in tutorials	68
2. Participation in projects	8
3. Participation in classes	14
4. Drafting drawing at home	14
5. Preparing to the tests	8

Student’s workload

Source of workload	hours	ECTS
Total workload	68	5
Contact hours	48	0
Practical activities	20	0