



## RTU Course "Descriptive Geometry and Engineering Graphics"

20226 Datorizētās inženiergrafikas katedra

### General data

Code	BTG131
Course title	Descriptive Geometry and Engineering Graphics
Course status in the programme	Compulsory/Courses of Limited Choice
Course level	Undergraduate Studies
Course type	Professional
Field of study	Engineering Graphics
Responsible instructor	Dobelis Modris
Academic staff	Jurāne Ieva Leja Ella Stroževa Veronika Veide Zoja Griņevičs Ivans Veide Gaļina Auzukalns Jānis
Volume of the course: parts and credits points	1 part, 2.0 Credit Points, 3.0 ECTS credits
Language of instruction	LV, EN, RU
Possibility of distance learning	Not planned
Maximum auditorium capacity	30
Maximum number of students per semester	1000
Abstract	Theoretical basis of representation of spatial objects on the plane. Projection methods. Point, line and plane. Drawing transformation methods. Metric exercises. Intersection problems. Isometric views. Complex drawing. Formats, scale, line code. Views, sectional views and sections. Dimensioning. Screw threads. Threaded fastenings and joint representation. Sketches and working drawings. Detail assemblies. Computer aided geometric modeling of engineering objects.
Goals and objectives of the course in terms of competences and skills	Acquire the knowledge about theoretical aspects of spatial object representation in the amount of basic knowledge of descriptive geometry. Be able to use this knowledge in practice while creating sketches and drawings for details and assemblies.
Structure and tasks of independent studies	Practical and laboratory graphic assignments in class, individual home exercises: Drawing document, scale, lettering, lines. Intermediate test: Points, lines, planes in space. Sections of tetrahedrons. Pyramid and prism. Sections of objects of rotation, Cone, cylinder, sphere. Views and simple sections (sketch). Complex and partial sections in multiview drawing and isometric. Intermediate test: Views, sections, dimensions. Sketch of detail with thread. Threaded joint and parts list. Exam: 1: Sectioned objects. 2. Multiview drawing.
Recommended literature	1. Inženiergrafika. Autori: Auzukalns J., Dobelis M., Fjodorova G., Jurāne I., u.c. Rīga: RTU, 2008. -310 lpp. MLĶF un TMF studentiem. 2. Būvgrafika. Mācību līdzeklis tehnisko augstskolu studentiem. Autori: Auzukalns J., Dobelis M., Fjodorova G., Jurāne I. Rīga: RTU, 2007. – 396 lpp. BF studentiem. 3. Inženiergrafika. Čukurs J., Nulle I., Dobelis M. Jelgava: LLU, 2008. - 416 lpp. Neklātienēs studentiem. 3. Inženiergrafika. Jurāns V. , Rieksts V. , Seņins A. Rīga, 1983. -276 lpp. 4. Technical Drawing and Engineering Communication. Goetsch D.L. Chalk W.S., Nelson J.A. Rickman R.L. Delmar Cengage Learning, 2010. -986 p. 5. Начертательная геометрия и черчение. Чекмарев А.А. Москва: ВЛАДОС, 2005. -471 с.
Course prerequisites	The knowledge of geometry covered in high school.

### Course outline

Theme	Hours
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### Learning outcomes and assessment

Learning outcomes	Assessment methods
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### Study subject structure

Part	CP	ECTS	Hours per Week			Tests		
			Lectures	Practical	Lab.	Test	Exam	Work
1.	2.0	3.0	0.0	0.0	2.0		*	