KLAIPĖDA STATE UNIVERSITY OF APPLIED SCIENCES

Faculty of Technologies

STUDY PROGRAMME: **GEODESY**
NAME OF THE SUBJECT: **SPATIAL PLANNING**
CODE OF THE SUBJECT: **TF-G-2-019**

Group of the subject*	Type of the subject**	Form of studies	Structure***				Total number of hours	Number of credits
			T	P	C	I		
SF	P	Full-time studies (FT)	50	83	9	98	240	9
		Part-time studies (PT)	20	32	90	98		

*Group of the subject: GS – general study subjects; SF – subjects of the study field.
**Type of the subject: C – compulsory subject; A – optional subject (alternative), FE – freely elective subject.
***Structure: T – theory; P – seminars, workshops, laboratory works; C – consultations; I – individual work.

Annotation

The subject is designed to form student's competence in the field of spatial planning of the Republic of Lithuania, application of the sale and lease of the state land, formation of the plots of land and preparation of redevelopment projects by applying "GIS" solutions, planning for the application of geodetic and land register works, as well as the principles of state regulation for the management and use of land. To apply the procedure for the calculation of land taxes of the Republic of Lithuania, to analyse and apply geographic information systems, principles for the preparation of general, special and detailed plans, regulations of the protected areas, plans regarding the determination of special conditions for the use of land, as well as necessity and procedure of their conclusion.

The connection of results of the study programme with results of the study subject and study methods, as well as evaluation methods of the learning achievements

Results of the study programme	Results of the study subject	Study methods	Evaluation methods of the learning achievements
A2. A student will demonstrate knowledge and understanding about the measuring, design and construction methods and ways, technical measures used to take such actions, as well as their management methods and principles of quality assurance.	A2.1. A student will know the rights and obligations of land owners and land users. A student will analyse land fund of the Republic of Lithuania.	Lecture, demonstration, comparative analysis and individual tasks.	Presentation of the research report
A3. A student demonstrates knowledge and understanding about the traditional and innovative technologies of measurement engineering and their application methods that are significant in the field of research, design and development of technological sciences, as well as has a holistic approach by making engineering decisions, coordinating the costs, benefit, safety, quality, reliability and environmental impact by applying principles of sustainable development.	A3.1. A student will calculate areas of the analysed territories by applying "GIS" solutions with "ArcGIS" or "Bentley Microstation" software. A3.2. A student will design, clarify and analyse the technology regarding preparation works of land management projects of land reform and documentary part of the project. A3.3. A student will perform formation of the plots of land by "ArcGIS" or "Bentley Microstation" software.	Lecture, analysis of methodological material, individual tasks and mastering of software.	Submission of individual task reports
B1. A student is able to apply the	B1.1. To apply regulations of	Discussion,	Report of practical work

acquired knowledge to master the latest technologies and to solve the tasks, related to geodesy, cartography and cadastre and register of real estate, as well as territorial planning; a student is also able to select measurement methods to obtain the necessary data	the protected areas and special conditions for the use of land and forest.	demonstration, mastering of software and determination of protected zones.	
D1. A student is able to use modern measurement devices, organise and analyse measurement results optimally, as well as applies methods of administration, formation and assessment of real estate, which comply with standards and regulations of Lithuania and the European Union	D1.1. A student will assess the impact of solutions of the detailed planning on the process of the spatial planning	Lecture, demonstration, individual tasks and individual work.	Report of practical work and interview in writing
D3. A student is able to use basic software, to apply and use numerical computed methods, used to solve specific engineering problems, to use computers to obtain and process problem solving data, to manage processes, automated design and computer graphics.	D3.1. A student will prepare and clarify indicators or real estate cadastre. D3.2. A student will prepare, supplement and clarify digital maps of various purpose, plans and schemes by applying "GIS" solutions with "ArcGIS" or "Benley Microstation" software.	Lecture, demonstration and individual tasks.	Report of an individual task
E1. A student is able to communicate with colleagues, managers and customers in correct and logical manner in writing and verbally by using modern technologies of information and communication, in Lithuanian and at least one foreign language, as well as to work in a multiprofile group (in a team).	E1.1. A student will apply the principles of general and special spatial planning	Demonstration of theoretical material and individual tasks	Report of practical work
E2. A student has learning skills that are necessary for studies and constant professional development, as well as is able to convey information, ideas, problems and solutions, to justify them or to defend them in front of the audience of engineering specialists and non-specialists	E2.1. A student will apply methodology for determination of land cost. E2.2. A student will analyse administration procedure of land taxes of the European Union and the Republic of Lithuania.	Analysis of legislation, individual tasks, implementation of work skills by using software Lecture – discussion, analysis of legislation and individual practical work	Assessment of practical works and individual tasks, submission of a set
E3. A student has time management and organisational skills, revealing his abilities to plan and implement productive and effective working methods	E3.1. A student will know the priorities of spatial planning and land use in Lithuania and the European Union	Lecture and individual tasks for the performance of comparative analysis	Test – interview in writing

Contents and scope of the subject

Topic name and content description	Number of the contact hours, FT form			Number of the contact hours, PT form			I	Total number of hours
	T	P	C	T	P	C		
1. Land owners and land users.	2	-		2	-			2
2. Description of land properties. Structure of land fund	4	8	-	2	3	7	4	16

of the Republic of Lithuania. Practical work No 1. Description of land properties. Objective: Study of land quality. An individual work No 1. Study of land fund of the Republic of Lithuania. Objective: to study structure of land fund of the Republic of Lithuania**.**								
3. Calculation of areas by applying "GIS" solutions. Practical work No 2. Analysis of the system of land management design works. In-office calculation of areas. Objective: to calculate areas of the given plots of land and to prepare statement, explication and fragment of territory by applying "GIS" solutions.	4	10	-		2	12	12	26
5. Land management design system. Practical work No 3. Objective: Analysis of the system of land management design works. Preparation of a project and management schemes.	4	6	-	2	2	6	8	18
4. Plans of land bought out by the state and not privatised. Practical work No 4. Plans of land bought out by the state and not privatised. Objective: to analyse a plan of land bought out by the state and not privatised in the given location and to provide a report of analysis.	4	8	-		4	8	4	16
5. Indicators of real estate cadastre. Preparation of cartographic material. A practical work No 5. Identification of indicators of real estate cadastre. Preparation of cartographic material by applying "GIS" solutions. Objective: to prepare and clarify indicators of cadastre. To prepare cartographic material for the planning works in the given plot of land.	4	7	-	2	2	7	7	18
6. State regulation of land management and use. A practical work No 6. State regulation of land management and use. Objective: to analyse the development of land administration system of the Republic of Lithuania and to prepare a structure An individual work No 2. State regulation of land management and use. To submit a written paper according to the given topics of the individual work.	5	6	-		2	9	5	16
7. Regulations of protected areas. An individual work No 3. Regulations of protected areas Objective: to analyse legal basis of the Republic of Lithuania, regulating the protected areas and to prepare a written paper.	5	7	-	2	2	8	7	19
Preparation of a report of practical and individual works and preparation for its defence	-	-	-	-	-	-	6	6
Preparation for the examination			6			6		6
7. General, special and detailed plans. Practical task of cadastral works No 1. General plans. Objective: to analyse situation in preparation of general plans of the Republic of Lithuania and to provide a report. Practical task of cadastral works No 2. Special plans. Objective: to compare the given special plans and to clarify them. Practical task of cadastral works No 3. Detailed plans. Objective: to analyse the given detailed plan, to perform formation of the plots of land by using "ArcGIS" or "Bentley" software and to submit notes in the report.	3	6	-	2	2	5		9

8. Plans regarding the determination of special conditions for the use of land Practical task of cadastral works No 4. Plans regarding the determination of special conditions for the use of land. Objective: to analyse special conditions for the use of land and forest. To conclude a list of special conditions for the use of land and forest of a given plot of land	3	6	-	2	2	5	7	16
9. Geodetic and cadastral land works in the spatial planning. Practical task of cadastral works No 5. Geodetic and cadastral land works in the spatial planning. Objective: to describe a sequence of geodetic and cadastral land works of a given project.	3	5	-	-	2	6	6	14
10. Plans for the assessment of land. Practical task of cadastral works No 6. Plans for the assessment of land. Objective: to assess plot of land according to the methodology for land assessment.	2	4	-	2	2	2	7	13
11. Calculation of the land cost Practical task of cadastral works No 7. Calculation of the land cost Objective: to calculate values of the given plots of land and forest by applying "GIS" technologies.	3	5	-	2	4	2	7	15
12. Procedure for the calculation of land taxes of the Republic of Lithuania Practical task of cadastral works No 8. Procedure for the calculation of land taxes of the Republic of Lithuania Objectives: to calculate taxes of real estate in the given plots of land and forest.	4	5	-	2	3	4	6	15
Preparation and presentation of a paper	-	-	-	-	-	-	6	6
Preparation for defence of a course work	-	-	3	-	-	3	6	9
Total number of hours	**50**	**83**	**9**	**20**	**32**	**90**	**98**	**240**

Assessment system of results of the subject studies

Result number of the study subject	**Assessment criteria of results of the study subject**
A2.1.	Mastering of the principles related to the rights and obligations of the primary land owners.
A2.2.	Analysis of the land fund of the Republic of Lithuania.
A3.1.	Knowledge and application of calculation methods.
A3.2.	Understanding of significance related to the application of measurements and calculation results.
A3.3.	Understanding of data necessary for map making.
B1.1.	Application of regulations of protected areas and formulation of conclusions.
B2.1.	Ability to perform design tasks in order to obtain data.
C4.1.	Problem solving and argumentation by selecting and clarifying measurements, as well as preparing software.
C4.2.	Preparation and clarification of maps of various purposes.
D1.1.	Application of principles for spatial planning.
D2.1.	Application of methodology of the land cost.
D2.2.	Knowledge of land tax administration of the European Union and the Republic of Lithuania.
E1.1.	Identification of priorities of spatial planning and land use.

Procedure of evaluation
A ten-point criterial grading scale and system of a cumulated grading are applied. $$\mathbf{IKV} = \sum_{i=1}^{n} \mathbf{X_i} \times \mathbf{k_i}$$

n – number of interim assessments (4),
X_i – evaluations for interim assessments and examination,
k_i – weighted coefficients of interim assessments and examination.
Examination can be taken by students, whose average of interim evaluations is at least 5 points.

Recommended literature and other information sources

Primary literature and information sources			
No	**Literature and information sources**	**Number of copies**	
		At the library of the Faculty of Technologies	**At other libraries of Klaipeda State University of Applied Sciences**
1.	Jankauskienė D. (2011). *Teritorijų planavimas*. K: UAB Vitea Litera.	81	-
2.	Bunevičienė G. Raulinaitienė D. (2008). *Nekilnojamojo turto kadastras.* Mokomoji knyga, UAB "Vaistų žinios"	17	-
3.	Atkocevičienė, V. (2008) *Žemės naudmenų plotų skaičiavimas*: metodiniai patarimai, Kaunas: Ardiva	10	-
4.	Tarvydienė M. E. (2008) *Teritorijų planavimas*. Metodiniai patarimai. Kaunas: Ardiva	10	-
5.	Neteler M. (2010). *Open source GIS: a grass GIS approach*. New York, NY: Springer.	5	-

Additional literature and information sources	
No	**Literature and information sources**
6.	Kennedy M. (2009). *Introducing Geographic information systems with ArcGIS: a workbook approach to learning GIS*. Hoboken (N.J.): John Wiley & Sons.
7.	Longley, Paul A. (2006). *Geographical information systems and science*. Chichester: John Wiley & Sons, Ltd.
8.	Stravinskienė V. (2008), *Kaimo plėtros žemėtvarka: metodiniai patarimai* . Kaunas: Ardiva
9.	Marsh W.M. (2005). *Landscape planning. Environmental applications.* John Wiley and sons, New Jersey.

Description of the subject was prepared by:

Lecturer		Dainora Jankauskienė
(*Position*)	*(Signature)*	*(Academic degree, name and surname)*