



Presentation of the study programme

2nd CYCLE ACADEMIC STUDY PROGRAMME

GEODESY AND GEOINFORMATION (MA)

Valid from study year 2021/2022 | Valid study programme from 20/01/2021

University of Ljubljana, Faculty of Civil and Geodetic Engineering

INFORMATION ABOUT THE STUDY PROGRAMME

1. Basic information

Programme name	Geodesy and Geoinformation
Programme characteristics	
Type	master
Cycle	second cycle
KLASIUS-SRV	Master higher education (second cycle Bologna)/Master higher education (second cycle Bologna) (17003)
ISCED	<ul style="list-style-type: none"> architecture, urbanism and civil engineering (58)
KLASIUS-P	<ul style="list-style-type: none"> Geodesy and cartography (5813)
Frascati	<ul style="list-style-type: none"> Technical sciences (2)
level SOK	level SOK 8
level EOK	level EOK 7
level EOVK	second cycle
Areas/modules/orientations	<ul style="list-style-type: none"> uniform (study programme)
Member of the University of Ljubljana	<ul style="list-style-type: none"> Faculty of Civil and Geodetic Engineering, Jamova 2, 1000 Ljubljana, Slovenia
Duration (years)	2
Num. of ECTS per year	60
Implementation of study	full-time, part-time

2. Basic goals of the programme

The basic goal of the second cycle master study programme Geodesy and Geoinformation is to educate experts capable of analytical and synthetic thinking, creative, critical, efficient and constructive solving of complex research and development problems and project-applied tasks in the fields of geodesy and geoinformation. The programme ensures interdisciplinary integration of the experts and at the same time it provides excellent foundation for further studies at the third cycle of any natural science and technical programmes. At the same time it enables students to obtain a license of Responsible Surveyor by the Slovenian Chamber of Engineers. The study programme provides students comparability of educational attainment also in an international context.

3. General competences

General competences acquired by the graduates of the master study programme Geodesy and Geoinformation are:

- generally well-informed experts, knowledge about academic areas and scientific work methods,
- critical reading and understanding of texts, independent upgrading of knowledge and search for sources,
- ability to transfer and use theoretic knowledge in practice
- development of high professional and ethical standards and professional, environmental and social responsibility,
- development of scientific literacy, skills of public appearance and communication with clients, transfer and presentation of knowledge and results,
- ability to use domestic and foreign professional language in written and oral communication, communications in international and national scientific circles,
- ability to use and develop geo-information technology,
- capacity to manage professional processes in the surveying companies, public services or agencies in the fields of geodesy or spatial planning.

4. Course-related competences

With the second cycle master study programme Geodesy and Geoinformation the graduate acquires mainly the following course-specific competences:

- independently solves all kinds of professional and development tasks in the fields of geodesy and geoinformation
- understands, applies and develops modern surveying methodologies and technology and is able to upgrade it,
- plans, organizes, manages and carries out surveying tasks for the establishment, maintenance and restoration of the basic geodetic reference system,

- plans, organizes, executes or leads geodetic works:
 - in the land surveying,
 - in the construction of all types of buildings or generally in all types of infrastructural development in the physical environment,
 - in the procedures of cadastral regulation and registration of real estate,
 - in the fields of topography and cartography,
 - in the fields of photogrammetry and remote sensing,
 - at the establishment, maintenance and upgrading of geographic, cartographic and land information systems
- participates in the preparation of spatial planning documents and
- knows the legal, administrative and economic system, important for the surveyor.

5. Conditions for enrolment

The second cycle master study programme Geodesy and Geoinformation is available to the graduates from:

- a) first cycle academic study programme Geodesy and Geoinformation;
- b) first cycle higher education professional study Technical Real Estate Management, who pass differential exams from the first cycle academic study programme Geodesy and Geoinformation: Mathematics 2, Physics and Geodesy, totalling 20 credit points; the differential exams may be selected as elective courses during the first cycle study or in additional bridging year;
- c) higher education professional study of geodesy before the introduction of Bologna programmes;
- d) first cycle university study of other studies; the candidates shall finish additional individual bridging programme consisting of 10 to 60 ECTS. The obligations shall be defined according to the level of deviation of the basic area and the candidates may comply with the demands during the first cycle study or by passing exams before the enrolment to the master study.
- e) first cycle higher education professional study of other related programmes (technical and geosciences); the candidates shall finish additional individual bridging programme consisting of 10 to 60 ECTS. The obligations shall be defined according to the level of deviation of the basic area and the candidates may comply with the demands during the first cycle study or by passing exams before the enrolment to the master study.
- f) other related (technical and geo sciences) higher educational professional studies before the introduction of the Bologna programmes; the candidates shall finish additional individual bridging programme consisting of 10 to 60 ECTS. The obligations shall be defined according to the level of deviation of the basic area and the candidates may comply with the demands during the first cycle study or by passing exams before the enrolment to the master study.

Obligations of the individual bridging programme shall be defined according to the missing knowledge and the experiences of the candidate from practice acquired before the enrolment.

6. Selection criteria when enrolment is restricted

In case of restricted enrolment, the following conditions shall be considered: grade obtained in the first cycle study (100%).

7. Criteria for recognising knowledge and skills acquired before enrolment in the programme

The student can be acknowledged the knowledge that matches the contents and scope of the study in the programme Geodesy and Geoinformation. The Study Board of the Department of Geodetic Engineering of UL FGG takes decisions regarding the acknowledgement of knowledge and skills acquired before the enrolment, based on the student's written application, the enclosed certificates and other documents evidencing the successfully acquired knowledge and contents of this knowledge, and in accordance with the Rules on the procedure and criteria for the acknowledgement of informally acquired knowledge and skills, adopted on 29 May 2007 at the 15th meeting of the UL Senate.

For the acknowledgement of knowledge and skills the following shall be considered:

- certificates and other documents evidencing finished courses and other forms of education,
- evaluation of finished products, services, publications and other original works of the student,
- evaluation of knowledge acquired by the student based on self-education or learning from experiences (possibility of completing study obligations without participation at lectures, practical work, seminars),
- adequate work experiences.

In case that the Study Board of the department determines that the acquired knowledge may be acknowledged, this is evaluated with the same number of ECTS points as the number of credits in the subject.

8. Methods of assessment

The assessment methods are in accordance with the [Statute of University of Ljubljana](#) and listed in the Course Syllabi.

9. Conditions for progression through the programme

Conditions for progression from one year to another

The student may enrol to subsequent year, if they complete by the end of the study year all the obligations foreseen by the study plan, amounting to at least 45 ECTS.

Exceptionally the student may enrol to subsequent year if he has completed all their obligations in accordance with the study programme and achieved at least 40 ECTS of the current year and if he has justifiable reasons as defined by the UL Statute. The exceptional enrolment is decided by the Study Board of the FGG Department of Geodesy.

Students with above average study results will be allowed faster advancement. Based on the student's application and justified opinion of the UL FGG Study Board the final decision about such advancement is adopted by the Senate of UL FGG. With its decree the principles of faster progress shall be defined.

Conditions for repeated enrolment in the same year

Failing to meet all the obligations defined by the study programme for the advancement in the subsequent year, students may enrol in the same year for the second time, provided that they have obtained at least 30 credit points according to ECTS.

10. Transfer between study programmes

Transfer between programmes shall mean termination of education in the student's original study programme (first programme) and continuation of education in the second cycle master study programme of Geodesy and Geoinformation (second programme), in which a part of the completed study requirements from the first study programme are recognised as completed.

Transfers are possible from the second cycle study programmes, and until their expiration also from the undergraduate academic study programmes adopted after June 11 2004, where the competences of the finished studies are comparable and according to the acknowledgement criteria at least half of the obligations according to ECTS from the first study programme related to compulsory courses of the second study programme can be acknowledged. Considering the scope of acknowledged obligations from the first study programme in the Republic of Slovenia or abroad student may enrol to the same or higher year in the second study programme. Transferring students shall fulfil the conditions for the enrolment to the second study programme.

Applications of candidates for the transfer to the second cycle master study programme Geodesy and Geoinformation and the scope of acknowledged obligations in the study programme will be examined individually by the Study Board of the Department of Geodesy. If in the procedure of acknowledging obligations for the purpose of transfer the candidate is approved at least the amount of credit points and those point that are required for the enrolment to a higher year of the second cycle master study programme Geodesy and Geoinformation, the candidate may enrol to the higher year of the second cycle master study programme Geodesy and Geoinformation.

11. Conditions for completions of the study

Students finish the study by accomplishing all the prescribed obligations totalling 120 points according to ECTS.

12. Conditions for completion of individual parts of the programme

The study is uniform.

13. Qualifications, professional or academic title (male)

- magister inženir geodezije in geoinformatike (MA)
(second cycle graduate in geodesy and geoinformation)

14. Qualifications, professional or academic title (female)

- magistrica inženirka geodezije in geoinformatike
(second cycle graduate in geodesy and geoinformation)

15. Qualifications, professional or academic title (abbreviation)

- mag. inž. geod. geoinf.

SYLLABUS OF STUDY PROGRAMME WITH FORESEEN COURSE COORDINATORS

16. No subdivision (study programme)

1st year, mandatory

	Code	Course title	Lecturers	Contact hours					Independent work	Total hours	ECTS	Semester	Elective
				Lectures	Seminar	Tutorials	Clinical tutorials	Other study forms					
1.	1386	Mathematics III	Marjeta Kramar Fijavž	45	0	30	0	0	75	150	5	Winter	No
2.	1404	Geoinformatics II	Anka Lisec, Krištof Oštir	30	0	0	30	0	60	120	4	Summer	No
3.	1741	Satellite Geodesy and Navigation	Miran Kuhar, Polona Pavlovčič Prešeren	45	0	0	30	0	75	150	5	Winter	No
4.	1721	Adjustment Computation III	Bojan Stopar	30	0	0	30	0	60	120	4	Winter	No
5.	1845	Practicum from spatial planning	Alma Zavodnik Lamovšek	15	0	0	45	0	60	120	4	Winter	No
6.	1393	Geodetic Measuring Systems	Dušan Kogoj	60	0	0	60	0	120	240	8	Winter	No
7.	1722	Physical Geodesy	Miran Kuhar	30	0	0	30	0	60	120	4	Summer	No
8.	1392	Spatial Data Analysis	Krištof Oštir, Samo Drobne	30	0	0	30	0	60	120	4	Summer	No
9.	1390	Remote Sensing and Photogrammetry II	Mojca Kosmatin Fras	60	0	0	60	0	120	240	8	Summer	No
10.	1394	Multimedia Cartography	Dušan Petrovič	45	0	0	60	0	105	210	7	Summer	No
11.	1763	Elective course I		60	0	45	0	0	105	210	7	Winter	Yes
		Total		450	0	75	375	0	900	1800	60		

2nd year, mandatory

	Code	Course title	Lecturers	Contact hours					Independent work	Total hours	ECTS	Semester	Elective
				Lectures	Seminar	Tutorials	Clinical tutorials	Other study forms					
1.	1395	Engineering Surveying II	Božo Koler	45	0	0	45	0	90	180	6	Winter	No
2.	1396	Spatial Statistics	Goran Turk	30	0	30	0	0	60	120	4	Winter	No
3.	1744	Land consolidation and rearrangement	Anka Lisec	30	0	0	30	0	60	120	4	Winter	No
4.	1391	Mass Real Estate Valuation	Marjan Čeh	30	0	30	0	0	60	120	4	Winter	No
5.	1764	Elective course II		90	0	90	0	0	180	360	12	Winter	Yes
6.	1745	Project task	Bojan Stopar, Dušan Petrovič	0	0	0	0	300	300	600	20	Summer	No
7.	1746	Master thesis		0	0	0	0	150	150	300	10	Summer	No
		Total		225	0	150	75	450	900	1800	60		

Elective courses

	Code	Course title	Lecturers	Contact hours					Individ. work	Total hours	ECTS	Semesters	Elective
				Lectures	Seminar	Tutorials	Clinical tutorials	Other study forms					
1.	1256	Physical Education	prof. dr. Branko Škof	0	0	0	0	45	45	90	3	Summer, winter	Yes
2.	1402	Field Project Work	Dušan Kogoj	0	0	0	0	60	60	120	4	Summer, winter	Yes
3.	1397	Urban Planning	Gregor Čok	30	0	0	30	0	60	120	4	Summer, winter	Yes
4.	1689	Geoinformatics III	Krištof Oštir	30	0	0	30	0	60	120	4	Summer, winter	Yes
5.	1781	Project Work in Cartography	Dušan Petrovič	15	15	0	30	0	60	120	4	Summer	Yes
6.	1780	Close-Range Photogrammetry	Mojca Kosmatin Fras	30	0	0	30	0	60	120	4	Summer, winter	Yes
7.	1407	Geophysics	Miran Kuhar	30	0	0	15	0	45	90	3	Summer, winter	Yes
8.	1782	Quality assurance of the geodetic survey	Aleš Marjetič, Tomaž Ambrožič	15	15	0	30	0	60	120	4	Summer, winter	Yes
9.	1783	Optimization of geodetic networks	Bojan Stopar, Polona Pavlovčič Prešeren	15	15	0	30	0	60	120	4	Summer, winter	Yes
10.	1784	Selected topics from Geodesy and Geodetic Astronomy	Bojan Stopar, Miran Kuhar, Polona Pavlovčič Prešeren	30	0	0	30	0	60	120	4	Summer, winter	Yes
Total				180	45	0	240	105	570	1140	38		

17. Possibilities of elective courses and mobility

Elective courses are foreseen for the 2nd semester in the scope of 7 ECTS and in the 3rd semester in the scope of 12 ECTS. The study programme itself proposes 10 elective courses, which cover different areas of geodesy and geoinformation, and including physical education. To complete practical knowledge, in the third semester it is appropriate to select Field Project Work. Apart from the selection of elective subjects in the existing study, students may also choose among elective subjects at UL FGG. Recommendable subjects are from the areas of municipal engineering, traffic infrastructure as well as hydrology. They may also select any elective subjects from other faculties members of UL, and from other universities and higher education institutions in Slovenia or abroad, dealing with law, economics, administration and business administration, computer science, language, geology, agronomy, forestry, architecture and urbanism, etc.

Student may transfer 30 ECTS points of the programme (one study semester, regardless of compulsory and elective units) from any other area of civil engineering, provided that there is available an adequate agreement signed with UL FGG.