Name of subject	System of Regulatory Documents in Construction (ECTS 4)
Subject/module code	QSM1104 (Master's degree)
Science taught semester (s).	1st semester (Master's degree)
Responsible teacher	Pirnazarov I., acting associate professor, "Engineering Communications" Department
Education language	Uzbek
Connection to the curriculum	Compulsory
Training hours (this including independent education)	**Total hours – 120.** **Audience training hours – 36.** Lecture training hour – 18 Practical training hour – 18 **Independent education – 84 hours**
ECTS	4
The purpose and tasks of subject / learning outcomes	**The purpose of teaching the subject –** through the study of the subject "System of Regulatory Documents in Construction", to develop in master's students of the field of engineering communication systems, construction and installation the knowledge, initial skills and competencies needed to properly manage water supply, sewerage and water resources protection systems: systematizing regulatory documents on technical regulation in construction in harmony with international standards, expanding the use of innovative solutions, scientific and technical developments and digital technologies in the sector, professional training of construction personnel, forming mechanisms for the consistent development of architecture and construction bodies and institutions, and ensuring the efficiency of the public administration system. **The task of the subject is** to provide master's students with theoretical knowledge and practical skills in the correct use of the system of regulatory documents in construction (technical standardization); in designing construction and engineering survey works, the reconstruction of buildings and structures, and the expansion and technical re-equipment of enterprises; to give knowledge, through the study of mandatory or recommended norms, rules, provisions and requirements for the operation and repair of buildings and structures, of the opportunities for economic development; and to teach methods of managing modern projects for the efficient use of water resources. **Required prior knowledge:** 1. **Fundamentals of construction materials and structures.** The master's student should know the properties of the main construction materials, the structural elements of buildings and structures, and the general principles of their design and construction. 2. **Fundamentals of law and standardization.** The master's student should know the types and hierarchy of regulatory legal documents, the concepts of standardization, metrology and certification, and the general foundations of technical regulation. **Learning outcomes (professional competencies):** **LO1 –** the student should be able to: – systematize regulatory documents on technical regulation, harmonized with international standards, for the proper management of the system in the construction sector of Uzbekistan; – expand the use of innovative solutions, scientific and technical

	developments and digital technologies in the sector; – have an understanding of conducting the expert review of urban planning documents and of the powers, rights and obligations of expert organizations; **LO2 –** the student should be able to: – correctly use the system of regulatory documents in construction (technical standardization); – design construction and engineering survey works, the reconstruction of buildings and structures, and the expansion and technical re-equipment of enterprises; – have an understanding of the financial aspects of the regulatory document system, including the expected benefits and results; **LO3 –** the student should: – know how the study of mandatory or recommended norms, rules, provisions and requirements for the operation and repair of buildings and structures creates opportunities for economic development; – apply the basic principles of urban planning activity; – use the powers of state bodies in the field of urban planning activity; – learn methods of gaining knowledge and initial skills in ensuring the efficiency of the public administration system. **Skills:** **LO4 –** carries out quality control; **LO5 –** ensures occupational safety.
Course content (topics)	**I. Main Theoretical Part (Lecture Sessions) – I semester, 18 hours** **Topic 1:** The Urban Planning Code of the Republic of Uzbekistan and its essence [1;5] – 2 hours. **Topic 2:** Objects and subjects of urban planning, water supply and sewerage activities [8] – 2 hours. **Topic 3:** Construction supervision [6;7] – 2 hours. **Topic 4:** Organization and implementation of construction works** [6;11] – 2 hours. **Topic 5:** Urban planning documents and their expert review [2] – 2 hours. **Topic 6:** Use of the territories of settlements and suburban zones [3;5] – 2 hours. **Topic 7:** The system of technical standardization in construction [2] – 2 hours. **Topic 8:** Development and formalization of regulatory documents [4;6] – 2 hours. **Topic 9:** Approval of regulatory documents and their periodic compliance [2;3] – 2 hours. **II. Practical training instructions and recommendations (I semester, 18 hours)** **The following topics are recommended for practical training:** 1. Law of the Republic of Uzbekistan "On Drinking Water Supply and Wastewater Disposal" (O'RQ-784). – 2 hours. 2. Resolution of the President of the Republic of Uzbekistan "On additional measures to further improve the drinking water supply and sewerage system" (PQ-343). – 2 hours. 3. Introduction of the national classifier of construction resources and creation of an electronic price platform. Introduction of a digital project management system into construction processes. – 2 hours. 4. The main direction of the regulatory document system. ShNQ – urban planning norms and rules. The purpose of QMQ – construction norms and rules. Internal departmental documents. QMQ 2.04.03-19 "Sewerage. External networks". – 2 hours. 5. Decree of the President of the Republic of Uzbekistan No. PF-5883

	of 26 November 2019 “On measures to improve water resources management in the Republic of Uzbekistan in order to increase the level of drinking water supply to the population and improve its quality”. – 2 hours. 6. Classifier of urban planning norms of the Republic of Uzbekistan. Terms adopted in the technical standardization system and their definitions. – 2 hours. 7. Procedure for preparing and formalizing regulatory documents. Preparation of technical specifications. Compiling the list of reviews and reports on disagreements. – 2 hours. 8. Resolution of the Cabinet of Ministers No. 231 of 23 April 2024 “On measures to harmonize regulatory documents in construction with international standards”. The “ROAD MAP” for further improvement of regulatory documents on technical regulation in construction and housing and communal services. – 2 hours. 9. Resolution of the Cabinet of Ministers No. 214 of 17 April 2024 “On approval of the regulations on the Ministry of Construction and Housing and Communal Services and organizations within its system”. Resolution of the President of the Republic of Uzbekistan “On further improvement of the republican water supply system” (PQ-4536). – 2 hours. **III. Independent learning and independent work (I semester, 84 hours).** **Recommended topics for independent study:** 1. Interests of legal entities and individuals, society and the state in the field of urban planning. Rights and obligations of citizens related to drinking water supply and sewerage activities. – 6 hours. 2. Obligations of legal entities and individuals when carrying out urban planning and drinking water supply and sewerage activities. – 6 hours. 3. Types of settlements. – 6 hours. 4. Powers of the Council of Ministers of the Republic of Karakalpakstan and of the executive authorities of the regions and Tashkent city in the field of urban planning, and of drinking water supply and sewerage bodies. – 6 hours. 5. Powers of district (city) executive authorities in the field of urban planning. Powers of drinking water supply and sewerage bodies. – 6 hours. 6. Information on the approval of master plans of settlements and public discussion. – 6 hours. 7. Public expert review of master plans of settlements and submission of proposals for amendments. – 6 hours. 8. Composition of urban planning and drinking water supply and sewerage documents. – 6 hours. 9. Development, coordination and approval of urban planning and drinking water supply and sewerage documents. – 6 hours. 10. Implementation of urban planning documents, and prohibitions and restrictions on their implementation. – 6 hours. 11. Territorial development projects. Pre-design and design documents of drinking water supply and sewerage systems. – 6 hours. 12. Classifying specially regulated urban planning objects as objects of national and local significance and establishing their boundaries. – 6 hours. 13. On measures to improve the system of advanced training of managers, specialists and workers in architecture, construction and engineering communications. – 6 hours. 14. Types of construction norms and rules. Norms and rules related to drinking water supply and sewerage systems. – 6 hours. **IV. Educational technologies and methods:** • lectures; • interactive case studies; • seminars (logical thinking, quick question-and-answer sessions); • group work;

	• making presentations; • individual projects. **V. International benchmarking** This syllabus has been developed on the basis of the educational programmes of the following higher education institution ranked in the TOP-300 of the internationally recognized QS and THE rankings (topics marked ** are adopted from this programme): 1. Delft University of Technology – TU Delft (Netherlands); QS – 49, THE – 56. Lecture 4 "Organization and implementation of construction works". Additional topics: life cycle assessment (LCA) of construction objects, asset management and risk management; application of regulatory requirements at the stages of construction, operation, reconstruction and disposal. QS: https://www.topuniversities.com/universities/delft-university-technology; THE: https://www.timeshighereducation.com/world-university-rankings/delft-university-technology; programme: https://www.tudelft.nl/en/education/programmes/masters/civil-engineering/msc-civil-engineering
Exam form	Written
Teaching/learning and examination requirements	Complete mastery of theoretical and methodological concepts and practical knowledge of the discipline, the ability to correctly reflect the results of analysis, independently reason about the processes being studied and carry out tasks in the current, intermediate forms of control and independent work, pass written work on the final control. When drawing up final exam questions, deviations from the content of the discipline program are not allowed. The bank of final exam questions for each discipline is discussed at the meeting and approved by the head of the department. No later than 1 week before the start of the final control, tickets signed by the head of the department, enclosed in an envelope, are sealed by the Dean's office and opened 5 minutes before the start of the exam in the presence of students. Final exam duration is 80 minutes. Answers to final exam questions are recorded in copybooks with the seal of the Dean's office. After completion of the final work, the work is immediately encrypted by a representative of the Dean's office, and the copybooks are handed over to the commission for verification. From the moment of completion of the final exam, a period of 72 hours is allotted for checking and posting the results on the electronic platform. The teacher who taught the students in this discipline is not involved in the process of conducting the exam and checking the students' answers. Student(s) who are dissatisfied with the final exam results may submit a written or oral appeal within 24 hours of the publication of the final exam results. Complaints submitted after 24 hours from the publication of the final exam results will not be accepted.
Scope of assessment criteria and procedure	CURRENT CONTROL Purpose: Determining and assessing the student's level of knowledge, practical skills, and competencies on course topics. Instructions: The student's activity in daily classes is assessed through the student's mastery of course topics, as well as constructively interpreting and analyzing the educational material, developing module-specific skills, acquiring practical skills (in terms of quality and the specified number) and competencies, solving problem situations aimed at applying professional practical skills, working in a team, preparing presentations, etc. Current control form: Activity in lessons Preparing educational materials Working with sources within the subject Using educational technologies Working in a team Preparing presentations Working with projects.

MIDTERM CONTROL

Purpose: Assessing the student's knowledge and practical skills and level of mastery of lecture material after completing the relevant section of the course.

Form and procedure of intermediate control: Midterm examination is held during the semester during the training sessions after the completion of the relevant module of the curriculum of the subject. Midterm examination is held once in written form within the framework of this subject. Midterm examination questions cover all topics of the subject.

INDEPENDENT LEARNING

Purpose: Independent learning is aimed at fully covering the content of this course, expanding the theoretical knowledge acquired, and establishing independent learning activities for students.

Form and procedure of independent education: independent work assignments are completed in the form of an educational project, presentation, case study, problem solving, information search, digest, colloquium, essay, article, abstract, etc. Completed assignments for independent study are placed in the electronic system and checked based on the anti-plagiarism program and evaluated by the subject teacher.

In this case, the uniqueness of the completed assignment should not be less than 60%, otherwise the assignment will not be accepted for assessment. The number of independent work assignments, depending on the nature of the subject, should not be less than 3 for one subject (module). Independent work assignments account for 60% of the points allocated for current and intermediate control.

FINAL CONTROL

Purpose: The final examination is held at the end of the semester to determine the level of mastery of the student's theoretical knowledge and practical skills in the relevant subject. The final examination is held at a specified time according to the examination schedule created by the Registrar's Office on the electronic platform.

Requirements: The student must have passed the current control, intermediate control and independent learning assignments by the deadline for the final control type in the relevant subject. A student who has not passed the current control, intermediate control and independent learning assignments, as well as who has received a score in the range of "0-29.9" for these assignments and control types, is not included in the final control type. Also, a student who has missed 25 percent or more of the classroom hours allocated to a subject without a reason is excluded from this subject and is not included in the final control type and is considered not to have mastered the relevant credits in this subject. A student who has not passed or was not included in the final control type and has received a score in the range of "0-29.9" for this type of control is considered to be an academic debtor.

Final control form: The final examination in this subject will be conducted in written form. If the final examination is conducted in written form, the requirements for assessment must also be reflected.

Criteria for assessing student knowledge

5 grade	100 points		Assessment criteria
5	90-100	Excellent	When a student is considered to be able to make independent conclusions and decisions, think creatively, observe independently, apply the knowledge he has gained in practice, understand, know, express, and narrate the essence of the subject, and have an idea about the subject.
4	70-89,9	Good	When the student is considered to be

				able to observe independently, apply the knowledge he has gained in practice, understand, know, express, and narrate the essence of the subject, and has an idea about the subject.
	3	60-69,9	Satisfactory	When the student is found to be able to apply the knowledge he has gained in practice, understands, knows, can express, and narrate the essence of the subject, and has an idea about the subject.
	2	0-59,9	Unsatisfactory	When it is determined that the student has not mastered the science program, does not understand the essence of the subject, and does not have an idea about the science.

Course assessment criteria and procedure

Assessment type	Total points allocated	Control (task) form	Distribution of points	Qualifying score
Current assessment	30 points	System tasks	20 points (divided by the number of tasks)	18 points
		Student activity (in seminars, practical, laboratory classes)	10 points	
Midterm assessment	20 points	Supervision: Written work	10 points	12 points
		System tasks	10 points (divided by the number of tasks)	
Final assessment	50 points	Written assignment (5 questions)	50 points (10 points per question)	30 points
* Note: 60% of the points allocated for current and intermediate control are allocated to independent work assignments. Independent work assignments are evaluated as system assignments through the electronic platform.				

Recommended Literature

Main literature:

1. Constitution of the Republic of Uzbekistan. – T.: O‘zbekiston, 2016.
2. Urban Planning Code of the Republic of Uzbekistan. – Tashkent: O‘zbekiston, 23.05.2021.
3. Law of the Republic of Uzbekistan “On Drinking Water Supply and Wastewater Disposal” (O‘RQ-784). Tashkent, 28.04.2022.
4. Resolution of the President of the Republic of Uzbekistan “On additional measures to further improve the drinking water supply and sewerage system” (PQ-343). Tashkent, 24 October 2023.
5. Decree of the President of the Republic of Uzbekistan No. PF-5883 of 26 November 2019 “On measures to improve water resources management in the Republic of Uzbekistan in order to increase the level of drinking water supply to the population and improve its quality”.
6. Decree of the President of the Republic of Uzbekistan No. PF-5577 of 14 November 2018 “On additional measures to improve state regulation of the construction sector”.
7. Decree of the President of the Republic of Uzbekistan No. PF-5963 of 13 March 2020 “On additional measures to deepen reforms in the construction sector of the Republic of Uzbekistan”.

	Additional literatures 8. ShNQ 1.03.02-04 “Instruction on the composition, development, coordination and approval procedure of urban planning documents for the development and construction planning of territories”. Tashkent, 2009. State Committee for Architecture and Construction of the Republic of Uzbekistan. 9. ShNQ 2.08.02-09 “Public buildings and structures”. Tashkent, 2011. State Committee for Architecture and Construction of the Republic of Uzbekistan. 10. Rules for the preparation, legal expert review and registration of urban planning norms and rules, phytosanitary requirements, sanitary rules, norms and hygienic standards, environmental norms and rules, veterinary and veterinary-sanitary rules and norms. Annex 1 to Order No. 17-mh of the Minister of Justice of 29 July 2024, registered by the Ministry of Justice of the Republic of Uzbekistan on 6 August 2024 under No. 3545. 11. ShNQ 1.04.07-19 “Rules for the acceptance of completed construction objects into operation”. Tashkent, 2022. State Committee for Architecture and Construction of the Republic of Uzbekistan. 12. ShNQ 1.02.09-15 “Engineering-geological surveys for construction”. Tashkent, 2016. State Committee for Architecture and Construction of the Republic of Uzbekistan. **Internet resources:** 1. www.gov.uz – Government portal of the Republic of Uzbekistan. 2. www.lex.uz – National database of legislation of the Republic of Uzbekistan. 3. https://t.me/archbookuz – Telegram channel on architecture and construction literature.

This syllabus has been developed on the basis of the curricula of the following higher education institutions ranked in the **TOP-300** of the internationally recognised QS and THE world university rankings.

№	Name of the university	QS	THE	Topic title in this syllabus	Additional topics introduced on the basis of the TOP-300 university curriculum	Links:
1	**Delft University of Technology — TU Delft (Netherlands)**	49	56	**Lecture 4. Organisation and execution of construction works;**	**Life cycle of construction projects (Life Cycle Assessment — LCA), asset management and risk management. Application of regulatory requirements at the stages of construction, operation, reconstruction and disposal (demolition).**	QS: https://www.topuniversities.com/universities/delft-university-technology THE: https://www.timeshighereducation.com/world-university-rankings/delft-university-technology Curriculum: https://www.tudelft.nl/en/education/programmes/masters/civil-engineering/msc-civil-engineering

**- Topics taken from the curricula of universities ranked in the TOP-300