Course title	Research Practice (Internship) (18 ECTS)
Course/module code	IA(S)3418
Semester in which the course is taught	Semester 4
Responsible instructors	Ravshan Jabborovich Khamraqulov, Candidate of Technical Sciences, Associate Professor; Shuxrat Abdumalikovich Alikabulov, Doctor of Technical Sciences (DSc), Professor; Yorqin Sayfiddin o‘g‘li Rajabov, PhD in Technical Sciences, Associate Professor; Baxodir Uktamovich Sagatov, PhD in Technical Sciences, Associate Professor; Mashrab Rahmonqulovich Aliyev, Associate Professor; Uktam Uralboyevich Djurayev, Associate Professor; Ug‘iloy Shodiqulovna Ablayeva, Associate Professor.
Language of instruction	Uzbek
Status in the curriculum	Compulsory
Study workload	Total workload: 540 hours
ECTS	18
Course objectives / learning outcomes	The aim of the course is to prepare master's students for independent research. Its principal outcome is the preparation and successful defence of a master's thesis. Learning outcomes: - apply scientific methods of cognition in independent research activities, and generate and implement innovative ideas; - master the methodology of scientific cognition, and analyse and evaluate the content and level of philosophical and methodological issues when addressing research and innovation problems; - design and conduct comprehensive, systematic research, including innovative research, based on knowledge and skills in the construction sector; - use modern information technologies to address research and innovation-related tasks; - conduct research in the construction sector using modern research methods and information and communication technologies.
Course content	1. Collect information on the research topic at the institution where the research internship is undertaken. 2. Approve the research work plan and determine the specific scope and areas of the research. 3. Familiarise oneself with the research internship programme and schedule. 4. Prepare an analytical review of the literature related to the research topic. 5. Develop the experimental methodology. 6. Carry out theoretical and experimental work on the research topic. 7. Test the materials. 8. Present the results of applied research at conferences. 9. Develop and substantiate original proposals, principles, approaches, and interpretations. 10. Conduct experimental tests.
Form of assessment	Preparation and defence of a report
Teaching / learning and assessment requirements	A maximum of 3 days is allocated for preparing the final report. During this period, master's students finalise their individual plans and prepare a written report and presentation. Each master's student submits the following materials: - Report text; - Individual plan and reference from the research supervisor; - Electronic presentations by the master's student-trainees. Credits for research activities (practical training) are assessed by a commission in accordance with the approved procedure, with the participation of all master's students and their research supervisors. During the assessment, the competencies acquired by master's student-trainees during the research internship are evaluated.

No.	Activities and assignments	Allocated points	Report format
1.	Collect information on the research topic from the research internship institution.	0–10	A report is prepared and presented.
2.	Approve the research work plan and determine its scope and research areas (prepare and approve the master's student's individual work plan).	0–10	A report is prepared and presented.
3.	Familiarise oneself with the research internship programme and schedule.	0–10	A report is prepared and presented.
4.	Prepare an analytical review of the literature related to the research topic.	0–10	A report is prepared and presented.

	5.	Develop the experimental methodology.	0–10	A report is prepared and presented.
	6.	Carry out theoretical and experimental work on the research topic.	0–10	A report is prepared and presented.
	7.	Test the materials.	0–10	A report is prepared and presented.
	8.	Present theoretical research findings at conferences.	0–10	A report is prepared and presented.
	9.	Develop and substantiate original proposals, principles, approaches, and interpretations.	0–10	A report is prepared and presented.
	10.	Conduct experimental tests.	0–10	A report is prepared and presented.
	Note: 1. Topshiriqlar qo‘lyozma shaklida tayyorlanadi va har bir sahifaga talaba imzo qo‘yib tasdiqlaydi. 2. Topshiriq belgilangan namuna asosida tayyorlanadi va tegishli mas’ul shaxslar tomonidan tasdiqlanadi. 3. Baholash mezonlariga mos kelmaydigan bajarilgan topshiriqlar baholanmaydi.			
Recommended literature	**Core literature:** 1. Qosimova S.T. Binolarni texnik ekspluatatsiyaga xos xususiyatlari. O‘quv qo‘llanma. Toshkent - 2003-y. 2. B.A.Asqarov Sh.R.Nizomov Temirbeton va tosh- g‘isht qurilishlari. Darslik. Toshkent. 2008. 13 3. Mirzayev Sh.R., Vaxitov M.M. Me’morchilik II–qism. “Fuqarolik binolari”. Darslik. Toshkent, 2010-y. 255 bet. 4. To‘ychiyev N.J. Bino va inshootlar konstruksiyalari. Darslik – Voris nashtiyoti. 2010 -y. 5. Matkarimov S.Yu., Nizomov Sh.R. Kompyuter dasturlari asosida qurilish konstruksiyalarini hisoblash va avtomatlashtirish. Toshkent, 2013 6. Xodjaev A.A., Xotamov A.T., Yusufxo‘jaev S.A., To‘laganov B.A. Konstruksiyalarining shikastlanish sabablari va buzilish oqibatlarini aniqlash. O‘quv qo‘llanma. T., 2014. -136 b. 7. Artur Nilson, David Darwin, Charles Dola. Design of Concrete Structures 14th Edition. USA 2018. 8. S.A.Yusupxodjayev “Qurilish konstruksiyalari” Darslik. Toshkent. “O'zbekiston faylasuvlari milliy jamiyati”. 2019-yil 376 bet 9. Matkarimov S.Yu. Qurilish konstruksiyalarini loyihalashda kompyuter texnologiyalari. Darslik. Toshkent 2020. 10. Aliyev M.R. Bino va inshootlarning texnik holatini baholash. Darslik – Jizzax 2021-y. 11. U.U.Djurayev “Temirbeton va tosh konstruksiyalari” Darslik Jizzax 2022-yil 12. Janizaqov A.E. “Arxitekturaviy konstruksiya”. Darslik. Jizzax-2023 13. Aliyev M.R. Bino va inshootlar zilzilabardoshligi. O‘quv qo‘llanma. Jizzax: “So‘g‘diyona nashriyot matbaa uyi”, 2023 – yil 108 b. 14. U.U.Djurayev Qurilish konstruksiyalarini loyihalashda kompyuter texnologiyalari. Darslik Jizzax 2023-yil 246 bet. 15. Berdiyev O.B. “Sanoat binolari” darslik. Toshkent. 2024-yil. 172 bet. 16. Berdiyev O.B. “Bino va inshootlar arxitekturasi” o‘quv qo‘llanma. Toshkent. 2024-yil. 74 bet. 17. Normatova N.A., Xandamqulov Sh.B. “Sanoat va fuqaro binolari arxitekturasi” o‘quv qo‘llanma. Jizzax. 2024-yil. 218 bet 18. ShNQ 2.01.02-04 Bino va inshootlarning yong‘in xavfsizligi 19. ShNQ 1.01.01-09. Qurilish sohasidagi normativ hujjatlar tizimi. 20. ShNQ 2.01.04-18 Qurilishda issiqlik texnikasi 21. QMQ 2.01.03-19 Seysmik hududlarda qurilish. 22. ShNQ 2.01.01-22. Loyihalash uchun iqlimiy va fizikaviy geologik malumotlar 23. ShNQ 2.08.02-23 Jamoat binolari va inshootlari. 24. ShNQ 2.09.02-23 Korxonalarning ishlab chiqarish hamda ma’muriy-maishiy bino va inshootlari. Loyihalash talablari 25. ShNQ 2.03.05-23. Po‘lat konstruksiyalar. Loyihalash talablari. O‘zbekiston Respublikasi Qurilish va uy-joy kommunal xo‘jaligi vazirligi, 2024. 26. ShNQ 2.01.07-21. Yuklamalar va ta’sirlar. O‘zbekiston Respublikasi qurilish me’yoriy hujjati, 2024. 27. ShNQ 2.01.05-24 Tabiiy va suniy yoritish 28. ShNQ 2.08.01-24 Turar joy ob’yektlarini loyihalash 29. SHNQ 2.03.01-24. Beton va temir-beton konstruksiyalar. O‘zbekiston Respublikasi Qurilish va uy-joy kommunal xo‘jaligi vazirligi, 2024. 30. SHNQ 2.03.10-24. Tomlar va tom qoplamalari. O‘zbekiston Respublikasi Qurilish va uy-joy kommunal xo‘jaligi vazirligi, 2025. **Internet resources:** 31. www.mc.uz 32. https://gov.uz/oz/mc/sections/shaharsozlik-normalari-qurilish-va-texnik-reglamentlar 33. www.ZiyoNet.uz			